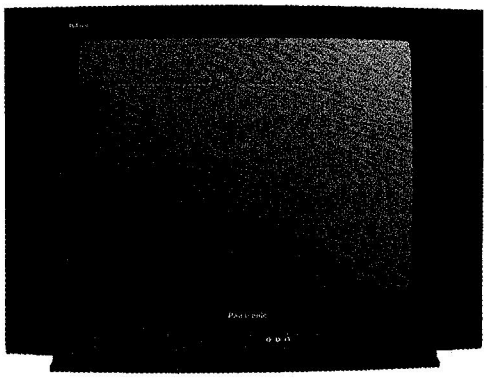
ORDER No. 00-SM-012

# Service Manual



## Colour Television

## TX-28LK1C

## TX-25LK1C

## TX-28SK1C

## Z8 Chassis

## SPECIFICATIONS

**(Information in brackets {} refers to model TX-25LK1C)**
**(Information in brackets [ ] refers to model TX-28SK1C)**

| | | | |
|---|---|---|---|
| **Power Source:** | 220-240V a.c., 50Hz | | |
| **Power Consumption:** | 76W | {72W} | [76W] |
| **Aerial Impedance:** | 75Ω unbalanced, Coaxial Type | | |
| **Standby Power Consumption:** | 0,9W | | |
| **Receiving System:** | PAL-B/G, PAL-60<br>M.NTSC (AV)<br>NTSC (AV only) | | |
| **Receiving Channels:** | | | |
| VHF E2-E12 | VHF H1-H2 (ITALY) | | |
| VHF A-H (ITALY) | UHF E21-E69 | | |
| CATV (S01-S05) | CATV S1-S10 (M1-M10) | | |
| CATV S11-S20 (U1-U10) | CATV S21-S41 (HYPERBAND) | | |
| **Intermediate Frequency:** | | | |
| Video | 38,9MHz | | |
| Audio | 33,4MHz,<br>33,16MHz (A2) | | |
| Colour | 34,47MHz | | |
| **Video/Audio Terminals:** | | | |
| AV1 IN | Video (21 pin) 1V p-p 75Ω<br>Audio (21 pin) 500mV rms 10kΩ<br>RGB (21 pin) 0,7V p-p 75Ω | | |
| AV1 OUT | Video (21 pin) 1V p-p 75Ω<br>Audio (21 pin) 500mV rms 1kΩ | | |
| RCA IN | Video 1V p-p 75Ω | | |
| RCA IN | Audio 500mV rms 10kΩ | | |
| **High Voltage:** | 28kV ± 1kV | | |
| **Picture Tube:** | A66ECF50X04<br>{A59EEQ15X97}<br>[A66ECF50X04] | 66cm<br>59cm<br>66cm | |
| **Audio Output:** | 2 x 10W (Music Power), 2 x 5W R.M.S.<br>8Ω Impedance | | |
| Headphones | 8Ω Impedance | | |
| **Accessories supplied:** | Remote Control<br>2 x R6 (UM3) Batteries | | |
| **Dimensions:** | | | |
| Height: | 571mm | {522mm} | [571mm] |
| Width: | 778mm | {718mm} | [778mm] |
| Depth: | 478mm | {464mm} | [478mm] |
| Net Weight: | 31,5kg | {26,75kg} | [31,5kg] |

Specifications are subject to change without notice.
Weights and dimensions shown are approximate.

**NOTE:** This Service Manual should be used in conjunction with the Z8 technical guide.

## TECHNISCHE DATEN

**(Die Auskunft in den Klammern { } bezeicht sich auf das folgende Modell TX-25LK1C)**
**(Die Auskunft in den Klammern [ ] bezeicht sich auf das folgende Modell TX-28SK1C)**

| | | | |
|---|---|---|---|
| **Netzpannung:** | 220-240V a.c., 50Hz | | |
| **Leistungsaufnahme:** | 76W | {72W} | [76W] |
| **Antennenimpedanz:** | 75Ω asymmetrisch, Koaxial-Typ | | |
| **Standby Leistungsaufnahme:** | 0,9W | | |
| **Empfangssystem:** | PAL-B/G, PAL-60<br>M.NTSC (AV)<br>NTSC (nur AV Eingang) | | |
| **Empfangsbereiche:** | | | |
| VHF E2-E12 | VHF H1-H2 (ITALY) | | |
| VHF A-H (ITALY) | UHF E21-E69 | | |
| CATV (S01-S05) | CATV S1-S10 (M1-M10) | | |
| CATV S11-S20 (U1-U10) | CATV S21-S41 (HYPERBAND) | | |
| **Zwischenfrequenz:** | | | |
| Video | 38,9MHz | | |
| Audio | 33,4MHz,<br>33,16MHz (A2) | | |
| Colour | 34,47MHz | | |
| **Video/Audio Anschlüsse:** | | | |
| AV1 EINGANG | Video (21 pin) 1V p-p 75Ω<br>Audio (21 pin) 500mV rms 10kΩ<br>RGB (21 pin) 0,7V p-p 75Ω | | |
| AV1 AUSGANG | Video (21 pin) 1V p-p 75Ω<br>Audio (21 pin) 500mV rms 1kΩ | | |
| RCA EINGANG | Video 1V p-p 75Ω | | |
| RCA EINGANG | Audio 500mV rms 10kΩ | | |
| **Hochspannung:** | 28kV ± 1kV | | |
| **Bildrohre:** | A66ECF50X04<br>{A59EEQ15X97}<br>[A66ECF50X04] | 66cm<br>59cm<br>66cm | |
| **Ton Ausgangsleistung:** | 2 x 10W (Musikleistung), 2 x 5W R.M.S. | | |
| Lautsprecher | 8Ω Impedanz | | |
| Kopfhörer: | 8Ω Impedanz | | |
| **Mitgel. Zubehör:** | Fernbedienung<br>2 x R6 (UM3) Batterien | | |
| **Abmessungen:** | | | |
| Höhe: | 571mm | {522mm} | [571mm] |
| Breite: | 778mm | {718mm} | [778mm] |
| Tiefe: | 478mm | {464mm} | [478mm] |
| Gewicht: | 31,5kg | {26,75kg} | [31,5kg] |

Änderungen der Technisichen Daten vorbehalten.
Gewichte und Abmessungen sind Näherungsangaben.

**Hinweis:** Bitte verwenden Sie das Service Manual zusammen mit dem Z8 Technical Guide.

Panasonic

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# SAFETY PRECAUTIONS

## GENERAL GUIDE LINES

1. It is advisable to insert an isolation transformer in the a.c. supply before servicing a hot chassis.

2. When servicing, observe the original lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.

3. After servicing, see that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are correctly installed.

4. When the receiver is not being used for a long period of time, unplug the power cord from the a.c. outlet.

5. Potentials as high as 29 kV are present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the tube.

6. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazard.

## LEAKAGE CURRENT COLD CHECK

1. Unplug the a.c. cord and connect a jumper between the two prongs of the plug.

2. Turn on the receiver's power switch.

3. Measure the resistance value with an ohmmeter, between the jumpered a.c. plug and each exposed metallic cabinet part on the receiver, such as screw heads, aerials, connectors, control shafts etc. When the exposed metallic part has a return path to the chassis the reading should be between 4M ohm and 20M ohm. When the exposed metal does not have a return path to the chassis the reading must be infinite.

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# SICHERHEITSVORKEHRUNGEN

## ALLGEMEINE RICHTLINIEN

1. Es ist empfehlenswert einen Trenntransformator in die Stromversorgung zu schalten, bevor Reparaturen an einem Gerät vorgenommen werden, dessen Chassis unter Spannung steht.
2. Bei der Durchführung von Servicearbeiten dürfen die ursprünglichen Kabelanschlüsse nicht vertauscht werden. Dies gilt insbesondere für die Anschlüsse im Hochspannungsteil. Hat sich ein Kurzschluß ereignet, dann sind alle Teile, an denen Spuren von Überhitzung sichtbar sind, auszuwechseln.
3. Nach Beenden der Servicearbeiten ist sicherzustellen, daß alle Sicherheitsvorrichtungen, wie Isolationsstege, Isolationspapiere, Abschirmungen und Isolations -R-C- Glieder wieder richtig eingesetzt sind.
4. Wenn der Fernseher während längerer Zeit nicht in Betrieb gesetzt wird, sollte der Netzstecker aus der Netzsteckdose gezogen werden.
5. Im Betrieb sind Spannungen bis zu 29 kV in diesem Gerät vorhanden. Die Inbetriebnahme des Fernsehers ohne aufgesetzte Rückwand bringt die Gefahr eines elektrischen Schlages von der Fernseher - Stromversorgung mit sich. Servicearbeiten solten daher auch nie durch Personen versucht werden, die nicht in vollem. Umfang mit den Sicherheitsvorkehrungen beim Umgang mit Hochspannungsgeräten vertraut sind. Vor der Handhabung mit der Bildröhre ist die Anode der Bildrohre immer an dem Empfängerchassis zu entladen.
6. Nach Beenden der Servicearbeiten sind die folgenden Kriechstrom-Prüfungen durchzuführen, um den Kunden vor der Gefahr eines elektrischen Schlages zu schützen.

## MESSUNG DES ISOLATIONSWIDERSTANDES IM ABGESCHALTETEN ZUSTAND

1. Den Netsztecker aus der Netzsteckdose ziehen und die beiden Steckerstifte kurzschließen.

2. Den Geräteschalter des Fernsehgerätes einschalten.

3. Mit einem Ohmmeter den Widerstandswert zwischen dem überbrückten Netzkabelsteckerund jendem zugänglichen Metallteil am Gehäuse des Fernsehgerätes, wie Schraubenköpfe, Antennen, Achsen der Regler, Griffassungen usw.messen. Wenn ein zugängliches Metallteil keine Rückleitung zum Chassis hat, Muß die Anzeige unendlich betrgen.

## LEAKAGE CURRENT HOT CHECK

1. Plug the a.c. cord directly into the a.c. outlet. Do not use an isolation transformer for this check.
2. Connect a 2kΩ 10W resistor in series with an exposed metallic part on the receiver and an earth, such as a water pipe.
3. Use an a.c. voltmeter with high impedance to measure the potential across the resistor.
4. Check each exposed metallic part and check the voltage at each point.
5. Reverse the a.c. plug at the outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 1,4 V rms. In case a measurement is outside the limits specified, there is a possibility of a shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

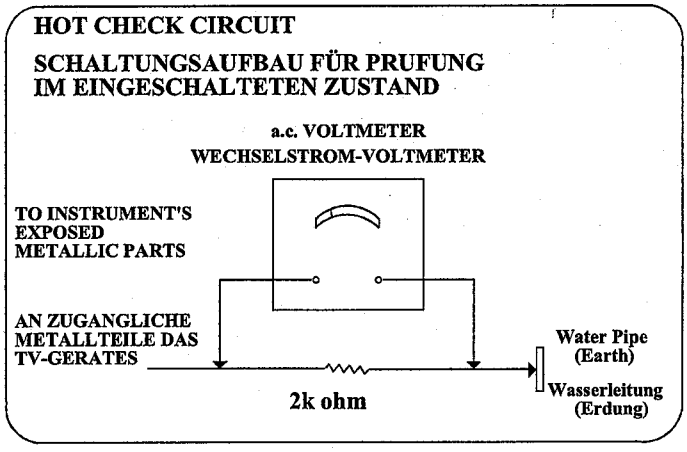



Fig.1.
Abb.1.

## X-RADIATION WARNING

1. The potential sources of X-Radiation in TV sets are the high voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that the jig is capable of handling 29 kV without causing X-Radiation.

**NOTE : It is important to use an accurate periodically calibrated high voltage meter.**

1. Set the brightness to minimum.
2. Measure the high voltage. The meter should indicate 28kV ± 1kV.
   If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
3. To prevent any X-Radiation possibility, it is essential to use the specified tube.

## MESSUNG DES KRIECHSTROMS IM EINGESCHALTETEN ZUSTAND

1. Den Netzstecker direkt in eine Netsteckdose stecken. Für diese Messung keinen Trenntransformator verwenden.
2. Einen 2kΩ / 10W-Widerstand in Serie mit einem von außen zugänglichen Metallteil am Fernsehgerät und einer guten, Erdung z.B Wasserleitung, anschließen.
3. Ein Wechselstrom-Voltmeter mit einem Meßbereich von 1000 Ohm.Volt oder größer verwenden, um die Spannung über den Widerstand zu messen.
4. Jedes zugängliche Metallteil prüfen, und an jedem Punkt dies Spannung messen.
5. Den Netztecker umgekehrt in die Steckdose stecken und jede der obigen Messungen wiederholen.
6. Die Spannung darf an keinem der Punkte 1,4V eff. überschreiten. Wird dieser Wert nicht eingehalten, besteht die Gefar eines elektrischen Schlages, und das Fernsehgerät sollte daher repariert und nachgeprüft werden, bevor es an den Kunden zurückgegeben wird.

## RÖNTGENSTRAHLUNG ACHTUNG :

1. Potentielle Quellen von Röntgenstrahlung in Fernsehgeräten sind das Hochspannungsteil und die Bildröhre.
2. Bei Verwendung eines Bildröhren-Prüfgerätes für den Service ist sicherzustellen, daß es für die Belastung von 29 kV geeignet ist, ohne daß eine Röntgenstrahlung verursacht wird.

**ANMERKUNG : Es ist wichtig, daß ein präzises, regelmäßig geprüftes Voltmeter verwendet wird.**

1. Helligkeit auf Minimum stellen.
2. Die Hochspannung messen. Die Anzeige des Instrumentes sollte 28kV ± 1kV.
   Falls die Anziege diese Toleranzgrenzen überschreitet, ist die sofortige Behebung nötig, um die Möglichkeit vorzeitigen Komponentenausfalls zu verhüten.
3. Um die Möglichkeit von Röntgenstrahlung zu begrenzen, ist es wichtig, daß nur die vorgeschriebene Bildröhre verwendet wird.

# SERVICE HINTS

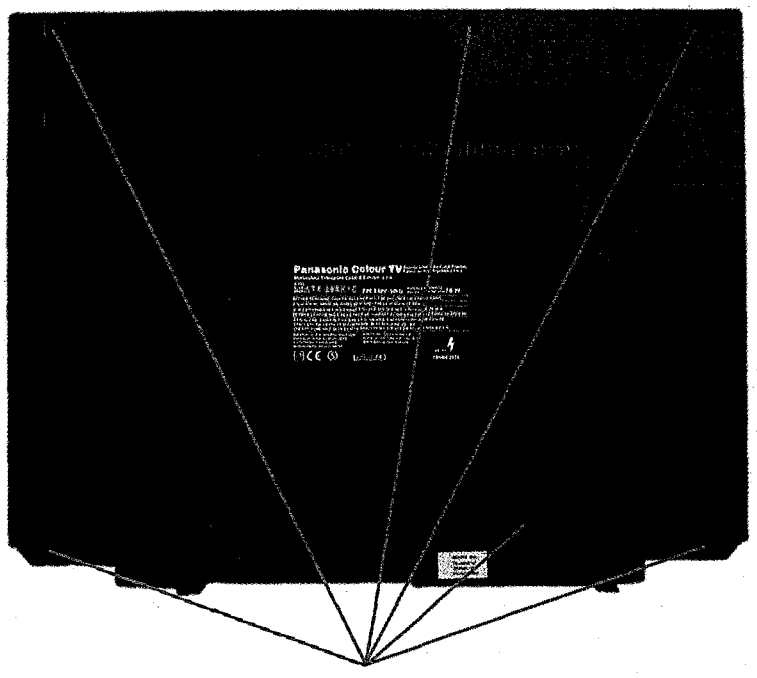
## HOW TO REMOVE THE REAR COVER

1. Remove the 6 screws as shown in **Fig.2.**

# SERVICE HINWEISE

## ENTFERNEN DER GERÄTERÜCKWAND

1. Die 6 Schrauben entfernen, siehe **Abb.2.**



**Screws**
**Schrauben**
**Fig.2.**
**Abb.2.**

# LOCATION OF CONTROLS

# LAGE DER EINSTELLREGLER

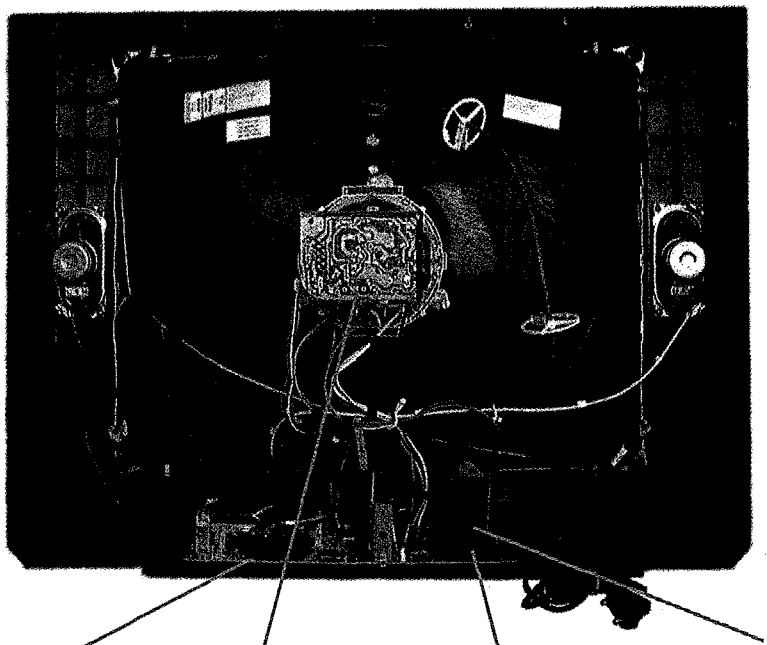



**Fig.3.**
**Abb.3.**

# SELF CHECK

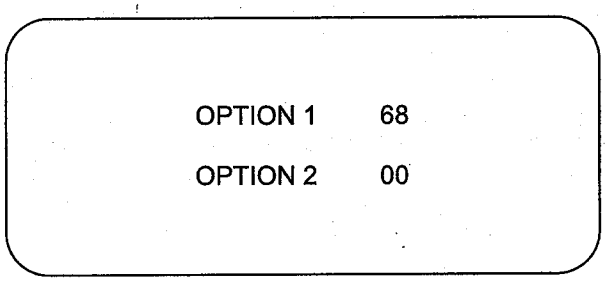
1. Self-check is used to automatically check the bus lines and hexadecimal code of the TV set.

2. To get into the Self-Check mode press the down **(-/v)** button on the customer controls at the front of the set,at the same time pressing the **STATUS** button on the remote control, and the screen will show :-

# SELBSTDIAGNOSE

1. Die Selbstdiagnose dient zum automatischen Prüfen der Bus-Leitungen sowie des Hexadezimalcodes des FS-Geräts. Zum Umschalten auf Selbstdiagnose zunächst die Taste **"STATUS"** auf der Fernbedienung und gleichzeitig die-Taste am Bedienteil des FS-Gerätes drücken **(-/v)**, auf dem Bildschirm erscheint hierauf :-

2. Nach der Selbstdiagnose wird das Gerät automatisch auf sämtliche werksseitigen Standardeinstellungen zurückgesetzt




## Service Aids

To aid in the service of our current chassis there are a number of Service Aids which have been made available.

- **LUCI** interface kit (**L**inked **U**tility **C**omputer **I**nterface)
  Part number: TZS6EZ002
  This contains interface and cables for connecting TV service connector and a PC as well as diagnostic software. As new models are introduced upgrade software will become available.

- **VICI** (**V**isual **I**nteractive **C**omputer **I**nformation)
  These C.D.'s contain multimedia documentation providing quick access to service information.
  Part No. TZS7EZ006, TZS7EZ005, TZS8EZ001 & TZS9EZ001
  1. Service Manuals
  2. Instruction Books
  3. Technical Information

- **TASMIN** (**T**echnically **A**dvanced **S**ystem for **M**ultimedia **I**nteractive **N**otes)
  As well as providing a first step towards more interactive training this product also achieves quick access to Technical Information.

## Service-Hilfen

Zur Unterstützung der Servicearbeiten stehen weitere Hilfsmittel zur Verfügung.

- **LUCI** interface kit (PC-unterstütztes Diagnosesystem)
  Bestell-Nr.: TZS6EZ002
  Es beinhaltet ein Interface, die Anschlusskabel zum FS-Gerät und die Diagnose-Software. Bei Einführung von neuen Modellen ist ein Update der Software jederzeit möglich.

- **VICI** (Interaktive CD-ROM) mit schnellem Zugiff auf Serviceinformationen.
  Bestell-Nr.: TZS7EZ006, TZS7EZ005, & TZS8EZ001 & TZS9EZ001
  1. Service Manuals
  2. Bedienungsanleitungen
  3. Technical Information

- **TASMIN** (Technisch erweitertes System für interaktive Multimedia-Hinweise und Notizen)
  Genauso wie dieses Produkt einen ersten Schritt in Richtung erweitertes interaktives Training bereitstellt, ermöglicht es einen noch schnelleren Zugang zu technischen Informationen.

# ADJUSTMENT PROCEDURE

| Item/Preparation | Adjustments |
|---|---|
| **+B SET-UP**<br>1. Receive a Greyscale signal.<br>2. Set the controls:<br>Brightness Minimum<br>Contrast Minimum<br>Volume Minimum | Confirm the following voltages.<br>**TPE1** 3,3 ± 0,3V **TPE13** -13 ± 1V<br>**TPE2** 195 ± 10V **TPE14** 27,5 ± 1,5V<br>**TPE3** 13,5 ± 1V **TPE15** 28 ± 1,5V<br>**TPE4** 10 ± 1V **TPE16** 11,5 ± 1V<br>**TPE8** 5 ± 0,3V **TPE17** 8 ± 1V<br>**TPE11** 147 ± 10V **TPE18** 5 ± 0,3V |
| **Cut-Off / Ug2 Adjustment**<br>1. Receive a Greyscale signal.<br>2. Degauss the tube externally.<br>3. Set the TV into Service Mode 1.<br>4. Select Ug2 Test. | Set Contrast on maximum, set Brightness on centre, switch on AV mode.<br>Enter Service mode. Set Sub-Brightness to 31. Select Ug2.Press "+" and adjust screen Vr till sharp vertical line is visible and LED switches off. Then reduce screen Vr till LED is just switched on (pin6 of connector E1 must be connected to GND). |

**Note:** To set up "white balance" first set up "Cut off" register to 8. Then set up "high-light" with the help of "drive" registers. Finish setting-up of "Low-light" with the help of "Cut-off" register. Carry out setting-up of "white balance" in available TV systems (PAL, SECAM).

# ABGLEICH

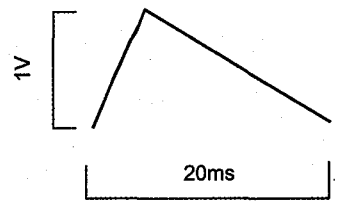
| Vorbereitungen | Abgleich |
|---|---|
| **+B – Abgleich**<br>1. TV einschalten, pattern cross hatch.<br>2. Helligkeit auf Minimum<br>Kontrast auf Minimum<br>Lautstärke Minimum | Folgende Spannungen sind zu überprüfen.<br>**TPE1** 3,3 ± 0,3V **TPE13** -13 ± 1V<br>**TPE2** 195 ± 10V **TPE14** 27,5 ± 1,5V<br>**TPE3** 13,5 ± 1V **TPE15** 28 ± 1,5V<br>**TPE4** 10 ± 1V **TPE16** 11,5 ± 1V<br>**TPE8** 5 ± 0,3V **TPE17** 8 ± 1V<br>**TPE11** 147 ± 10V **TPE18** 5 ± 0,3V |
| **Cut-Off / Ug2 Test**<br>1. Testbild empfangen.<br>2. Bildröhre entmagnetisieren.<br>3. Service-Mode 1 anwählen.<br>4. Im Service-Mode den Abgleichpunkt Cutoff DC-Mode wählen. | Stellen Sie den Kontrast auf das Maximum und die Hellgkeit auf die Mitte ein, schalten Sie in den Mode "AV" um. Treten Sie in den Service Mode ein. Stellen Sie die Sub-Brightness auf den Wert 31 ein.<br>Wählen Sie "Ug2" aus. Drüken Sie "+" und stellen Sie den Screen "Vr" so, dass die vertikale dünne Linie schrarf sichtbar ist und L.E.D. sich ausschaltet.<br>Dann nehmen Sie den Screen "Vr" ab,bis sich L.E.D. anzündet (pin6 des Konektors E1 muß geerdet sein). |

**Hinweis:** Um die "White Balance" einzustellen, stellen Sie zuerst das "Cut off" Register auf 8 ein. Dann stellen Sie mit der Hilfe von "Drive" Registern "High-Light" ein. Beenden Sie die Einstellung von "Low-Light" mit der Hilfe von dem "Cut off" Register. Führen Sie die Einstellung von "White Balance" in den zugänglichen Systemen (PAL, SECAM) durch.

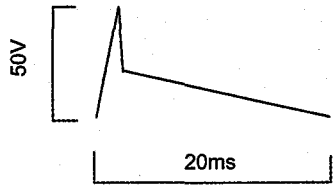
# WAVEFORM PATTERN TABLE

# SIGNAL TABELLE

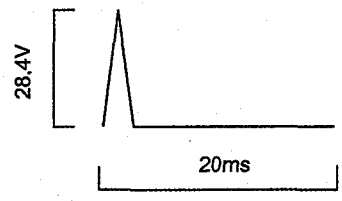
IC 601
Pin 21
**VERT - OUT**



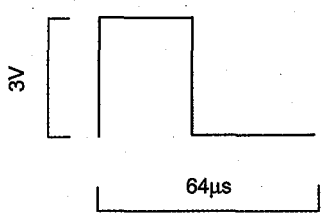

IC 451
Pin 2
**VERT - DRIVE**



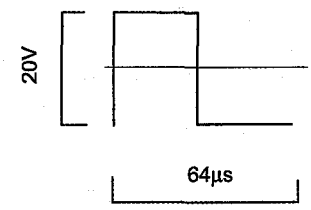

IC 451
Pin 3
**VFLB**



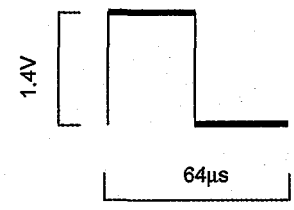

IC 601
Pin 33
**H - OUT**



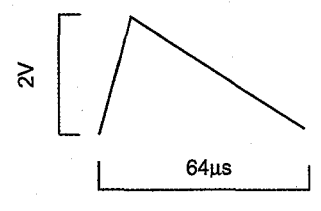

IC 701
Pin 5
**EW - OUT**



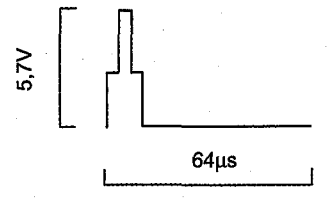

Base Q501
**H - PULSE**



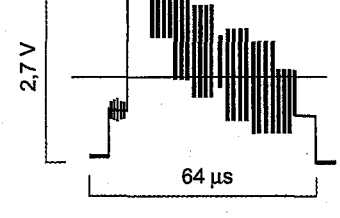

IC 701
Pin 8
**HFLB**



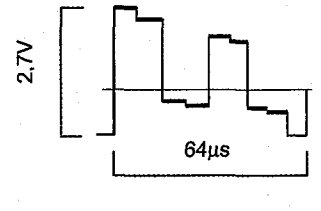

IC 601
Pin 34
**FBI/SCO**



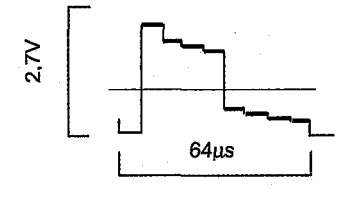

IC601
Pin 38
**VIDEO OUT**



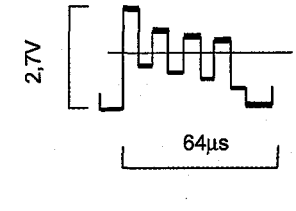

IC 601
Pin 51
**R - OUT**



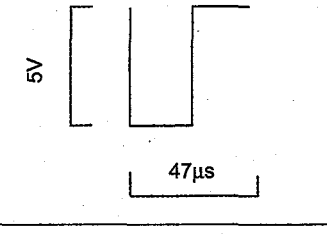

IC 601
Pin 52
**G - OUT**




IC 601
Pin 53
**B - OUT**




IC 601
Pin 2
**SCL**



# ALIGNMENT SETTINGS

To access Service Mode select program position 99 and set sharpness to minimum.
Press "**MUTE**" button on remote control and at the same time press the " **V** " button on the customer controls at the front of the TV, this will place the TV set into Service Mode.

Press ∧ / ∨ buttons to step up / down through the functions.

Press + / − buttons to alter the function values.
Press "**STR** " button on the customer controls at the front of the TV after each adjustment has been made to store the required values.
To exit Service Mode, press the **"N"** button.

| **Alignment Function** | **Setting indication**<br>**Note:** All setting values are approximate | **Settings / Special features** |
|---|---|---|
| 1. Cut off (Ug2) | LED On/Off<br>(pin6 of connector E1 to the GND) | LED to be just On. |
| 2. Vertical Slope | V-SLO 32 | Optimum setting. |
| 3. Vertical Shift | V-POS 43 | Optimum setting. |
| 4. Vertical Amplitude | V-AMP 60 | Optimum setting. |
| 5. Horizontal Shift | H-CTR 31 | Optimum setting. |
| 6. Horizontal parallelogram | H-PAR 034 | Optimum setting. |
| 7. Horizontal bow | H-BOW 031 | Optimum setting. |
| 8. R - Cut | R-CUT 8 | Optimum setting. |
| 9. G - Cut | G- CUT 8 | Optimum setting. |
| 10. R - Drive | R-DRV 31 | Optimum setting. |
| 11. G - Drive | G-DRV 31 | Optimum setting. |
| 12. B - Drive | B-DRV 31 | Optimum setting. |
| 13. AGC | AGC 018 | Optimum setting. |
| 14. Sub Color | S - COL 20 | Optimum setting. |
| 15. Sub Brightness | S - BRI 31 | Optimum setting. |
| 16. Horizontal Width | EW – WD 34 | Optimum setting. |
| 17. EW parabola | EW – PR 32 | Optimum setting. |
| 18. EW Upper corners | EW – UC 32 | Optimum setting. |
| 19. EW Lower corners | EW – LC 33 | Optimum setting. |
| 20. EW Trapezoid | EW – TP 36 | Optimum setting. |

Input remote code **"FA"** followed by key 5 (14hex), or press **"STATUS"** button on remote control (numerical keys 0-7 to change value, TV/AV button to store on remote control):

| **Option Byte - 1** | | **Option Byte Table** | |
|---|---|---|---|
| **Bit No.** | **Value** | **Function** | |
| 0 | 0 | French model | 0 NO<br>1 YES |
| 1 | 0 | Irish model | 0 NO<br>1 YES |
| 2 | 0 | NICAM enabled | 0 NO<br>1 YES |
| 3 | 1 | A2 stereo | 0 NO<br>1 YES |
| 4 | 0 | Tuner modification | 0 MACO<br>1 ALPS |
| 5 | 1 | CRT | 0 21"<br>1 25",28" |
| 6 | 1 | Q - link enabled | 0 NO<br>1 YES |
| 7 | 0 | TOP TEXT | 0 YES<br>1 NO |

| **Option Byte - 2** | | **Option Byte Table** |
|---|---|---|
| **Bit No.** | **Value** | **Function** |
| 0 | 0 | |
| 1 | 0 | |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 0 | |
| 5 | 0 | |
| 6 | 0 | |

# ABGLEICHTABELLE

Für den Eintritt in den Service-Modus wählen Sie bitte die Programmposition 99 und stellen Sie die Schärfe auf das Minimum ein. Drücken Sie an dem Fernbediengerät die Taste **"MUTE"** und zugleich die Taste **"V"** an dem vorderen Bedienungsfeld des Fernsehgeräts; das bringt den Fernsehgerät in den Service-Modus.

Mit der Betätigung der Tasten ∧ / ∨ wählen Sie die Funktion.

Mit der Betätigung der Tasten + / — ändern Sie den Wert der ausgewählten Funktion.
Durch das Drücken der Taste **"STR"** an dem vorderen Bedienungsfeld des Fernsehapparats wird nach jeder Einstellung des gewünschten Wertes der jeweiligen Funktion der Wert gespeichert.
Für den Austritt aus dem Service-Modus betätigen Sie bitte die Taste **"N"**.

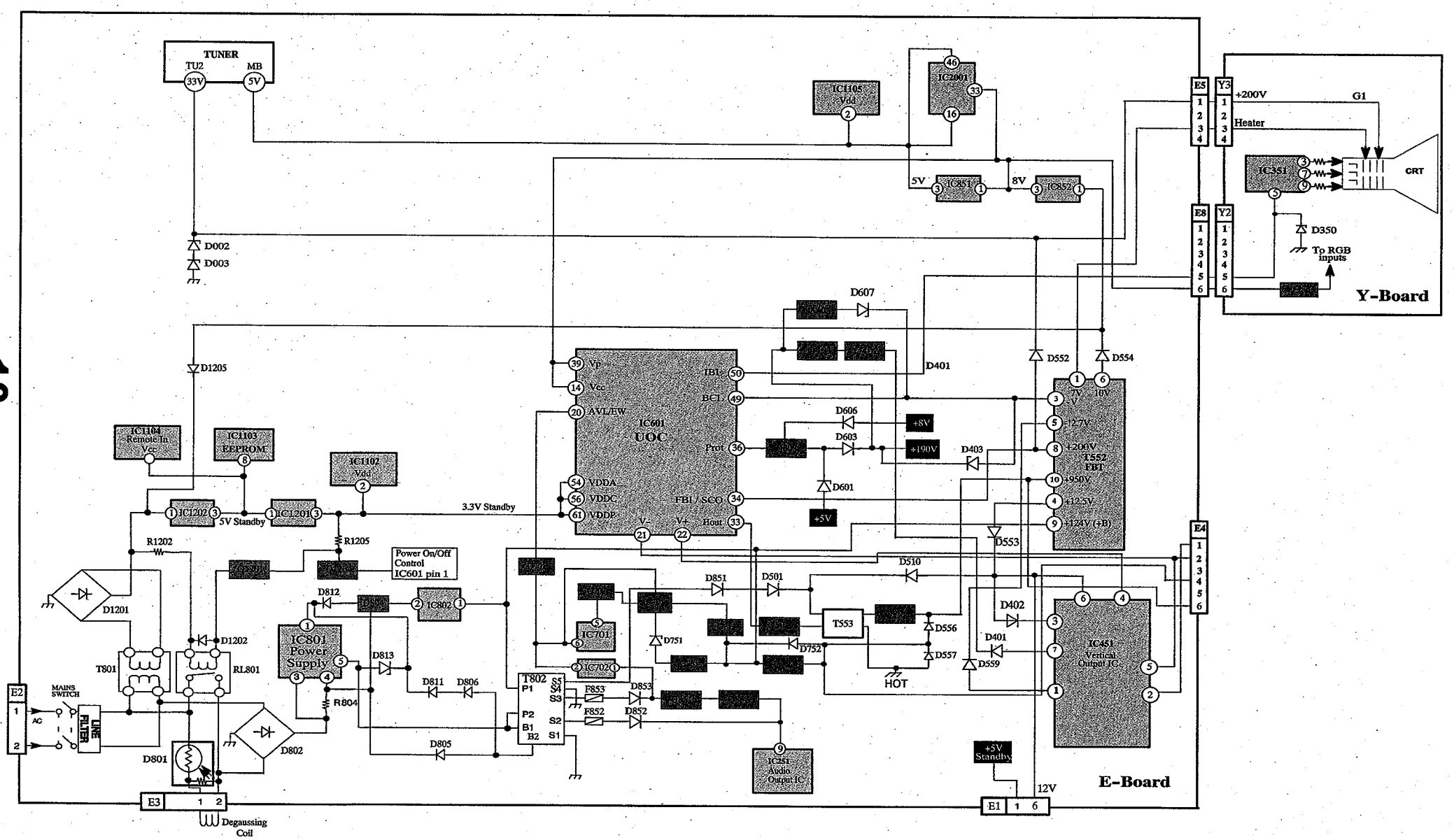
| **Abgleichfunktion** | **Indikation der Einstellung**<br>**Notiz:** Alle Einstellungswerte sind approximativ | **Einstellung / Besondere Merkmale** |
|---|---|---|
| 1. Cut off | LED on/off<br>(pin6 des Konektors E1 muß geerdet sein) | LED on |
| 2. Vertical slope | V - SLO 32 | Optimale Einstellung. |
| 3. Vertical shift | V - POS 43 | Optimale Einstellung. |
| 4. Vertical Amplitude | V - AMP 60 | Optimale Einstellung. |
| 5. Horizontal shift | H - CTR 31 | Optimale Einstellung. |
| 6. Horizontal parallelogram | H - PAR 34 | Optimale Einstellung. |
| 7. Horizontal bow | H - BOW 31 | Optimale Einstellung. |
| 8. R - Cut | R - CUT 8 | Optimale Einstellung. |
| 9. G - Cut | G - CUT 8 | Optimale Einstellung. |
| 10. R - Drive | R - DRV 31 | Optimale Einstellung. |
| 11. G - Drive | G - DRV 31 | Optimale Einstellung. |
| 12. B - Drive | B - DRV 31 | Optimale Einstellung. |
| 13. AGC | AGC 018 | Optimale Einstellung. |
| 14. Sub Colour | S - COL 20 | Optimale Einstellung. |
| 15. Sub-Brightness | S - BRI 31 | Optimale Einstellung. |
| 16. Horizontal Width | EW – WD 34 | Optimale Einstellung. |
| 17. EW Parabola | EW – PR 32 | Optimale Einstellung. |
| 18. EW Upper corners | EW – UC 32 | Optimale Einstellung. |
| 19. EW Lower corners | EW – LC 33 | Optimale Einstellung. |
| 20. EW Trapezoid | EW-TP 36 | Optimale Einstellung. |

Mit dem FA-Bediengerät (Sondertaste des Bediengerätes z.B. des E4-Modells) geben Sie den Kode ein, nachfolgend drücken Sie die Taste 5(14HEX) oder für den Zutritt vom Service-Modus die Taste **"STATUS"** an dem Fernbediengerät (nummerische Tasten 0-7 ändern den Wert, die TV/AV an dem Fernbediengerät speichert).

| **Option Byte - 1** | | **Option Byte Tabelle** | | |
|---|---|---|---|---|
| **Bit No.** | **Werte** | **Funktion** | | |
| 0 | 0 | Das französische Modell | 0<br>1 | NEIN<br>JA |
| 1 | 0 | Das irische Modell | 0<br>1 | NEIN<br>JA |
| 2 | 0 | NICAM zugänglich | 0<br>1 | NEIN<br>JA |
| 3 | 1 | A2 stereo zugänglich | 0<br>1 | NEIN<br>JA |
| 4 | 0 | Der Hersteller von Tuner | 0<br>1 | MACO<br>ALPS |
| 5 | 1 | CRT | 0<br>1 | 21"<br>25",28" |
| 6 | 1 | Q - link zugänglich | 0<br>1 | NEIN<br>JA |
| 7 | 0 | TOP TEXT | 0<br>1 | JA<br>NEIN |

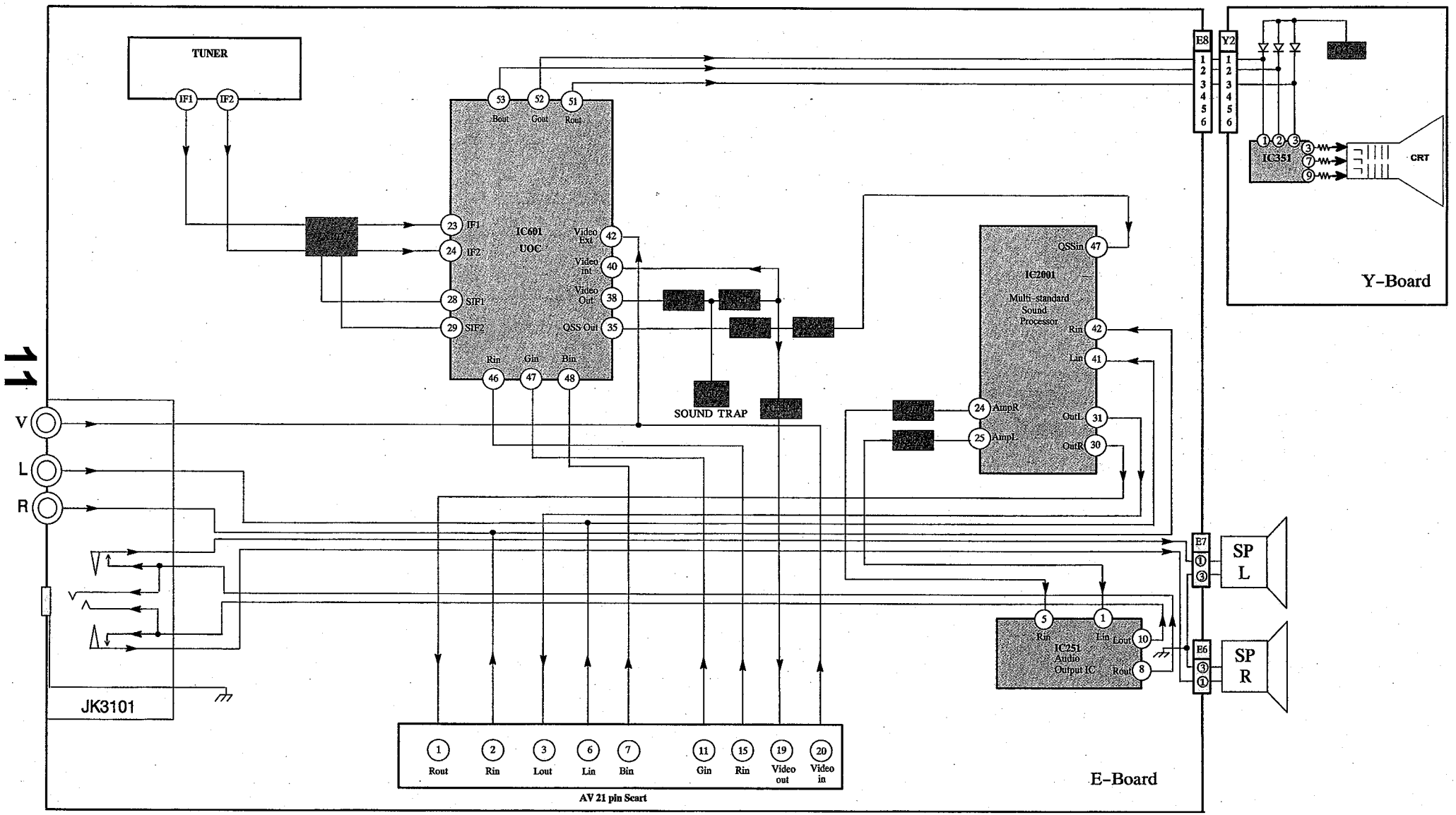
| **Option Byte - 2** | | **Option Byte Tabelle** |
|---|---|---|
| **Bit No.** | **Werte** | **Funktion** |
| 0 | 0 | |
| 1 | 0 | |
| 2 | 0 | |
| 3 | 0 | |
| 4 | 0 | |
| 5 | 0 | |
| 6 | 0 | |

# POWER SUPPLY AND DEFLECTION BLOCK DIAGRAM
# STROMVERSORGUNGS UND ABLENKUNG BLOSKSCHEMA



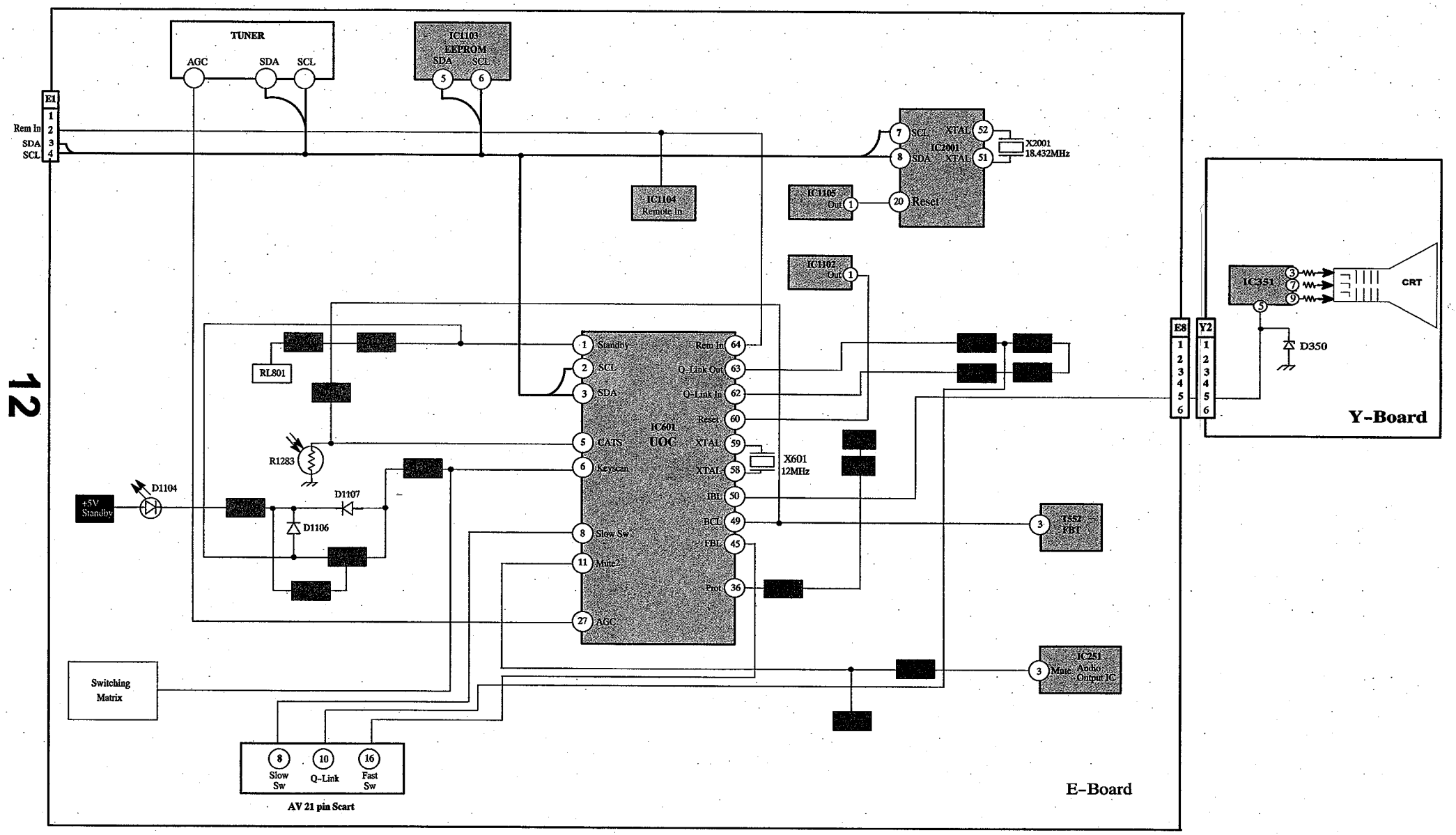
# VIDEO & AUDIO BLOCK DIAGRAM

# BILDSIGNAL & AUDIOSIGNAL BLOCKSCHEMA



# CONTROL BLOCK DIAGRAM

# KONTROLL BLOCKSCHEMA

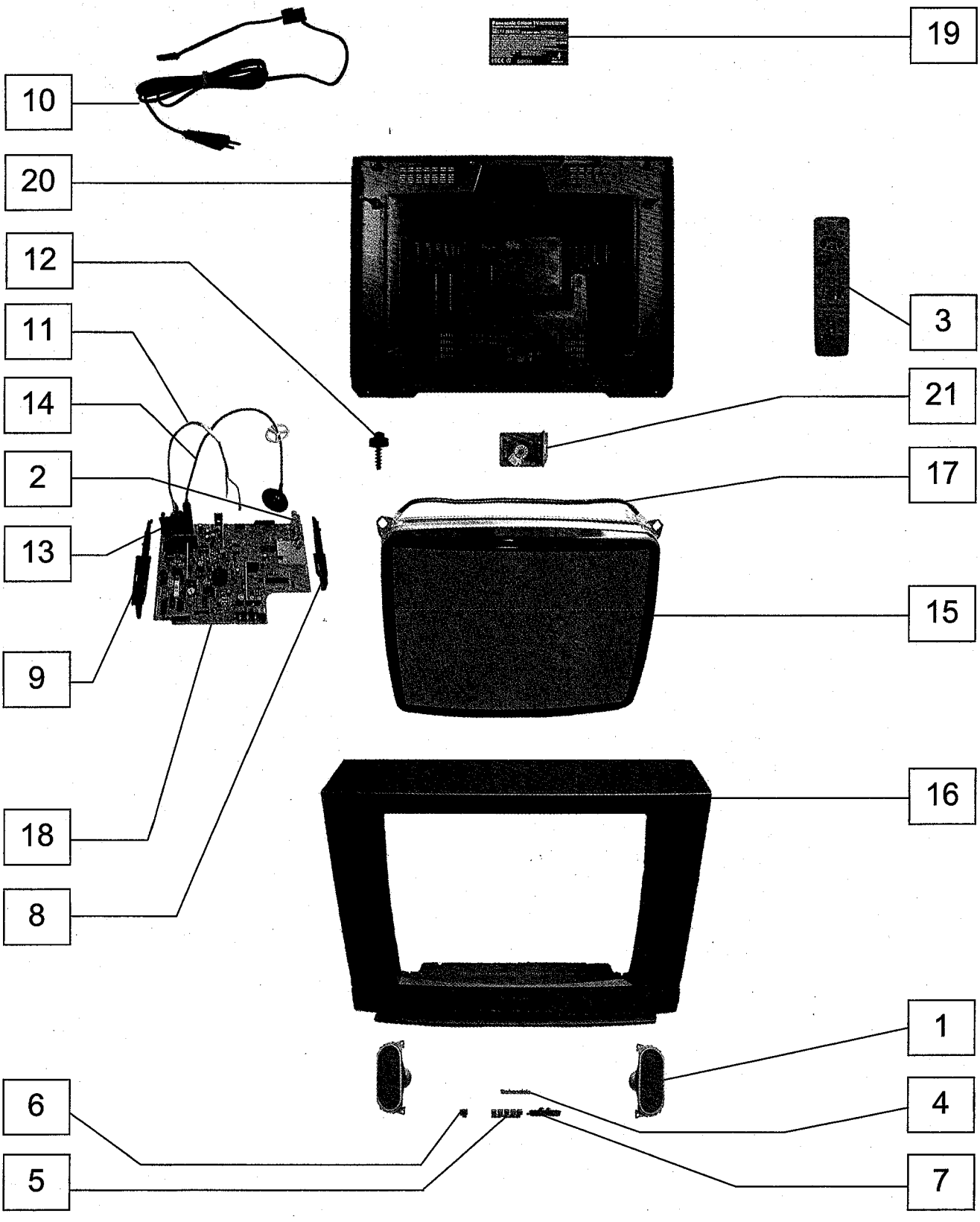


# PARTS LOCATION

**NOTE:**
The numbers on the exploded view below refer to the exploded view section of the Replacement Parts List.

# EXPLOSIONSZEICHNUNG

**ANMERKUNG:**
Die Nummern auf den Teilen der Explosionszeichnung zeigen die Bezugsnummern des Artikels der Explosionszeichnung der Ersatzteilliste an.



# REPLACEMENT PARTS LIST

## Important Safety Notice

Components Identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturers specified parts.
* In case of ordering these spare parts, please always add the complete Model-Type number to your order.

# ERSATZTEILLISTE

## Wichtiger Sicherhitshinweis

Teile, die mit einen Hinweis ⚠ gekennzeichnet sind wichtig für die Sicherhet. Solite ein Auswechsein erfordelrich sein, sind unbdingt Originalteile einzusetzen.
Bei der Bestellung von Ersatzteilen, di mit * gekennzeichnet sind, geben Sie bitte unbedingt die vollständige Typenbezeicnung mit an.

| Cct Ref | Parts Number | Description | |
|---|---|---|---|
| **COMMON PARTS** | | | |
| **EXPLODED VIEW** | | | |
| 1 | EASG12D552A2 | SPEAKER | |
| 2 | ENV57D37G3 | TUNER | |
| 3 | EUR511310 | REMOTE CONTROL | |
| 4 | TBM8E1928 | PANASONIC BADGE | |
| 5 | TBX8E081 | 5 KEY BUTTON | |
| 6 | TBX8E082 | POWER BUTTON | |
| 7 | TKK8E041 | AV COVER | |
| 8 | TMZ8E010 | CHASISS RAIL LEFT | |
| 9 | TMZ8E011 | CHASISS RAIL RIGHT | |
| 10 | TSX8E0043 | AC CORD | ⚠ |
| 11 | TXFJTF01BMTG | FOCUS LEAD ASSY | ⚠ |
| 12 | VP17005-32 | CRT FIXING SCREW | |
| 13 | ZTFL84001A | F.B.T. | ⚠ |
| 14 | ZTUZAE550A | ANODE LEAD | ⚠ |
| **MISCELLANEOUS COMPONENTS** | | | |
| . | UM-3DJ-2P | BATTERY PACK | |
| POE3 | TMW8E015-2 | LED HOLDER | |
| S351 | TJSC00300 | CRT SOCKET | ⚠ |
| **I.C.s** | | | |
| IC251 | TDA7263 | AUDIO OUTPUT | |
| IC351 | TDA6108JF | RGB OUTPUT | |
| IC451 | LA7845N | VERTICAL OUTPUT | |
| IC601 | TDA9364V404S | VIDEO PROCESSOR | |
| IC701 | TEA2031A | E/W CORRECTION | |
| IC702 | AN78L20 | REGULATOR | |
| IC801 | STRF6523LF51 | POWER SUPPLY | |
| IC802 | SE140NLF4 | ERROR AMPLIFIER | |
| IC851 | L78M05MRB | 5V REGULATOR | |
| IC852 | BA08T-M3 | 8V REGULATOR | |
| IC1102 | MN13812-HTA | RESET | |
| IC1104 | RPM-6937 | L.E.D. RECEIVER | |
| IC1105 | MN1381-R(TA) | RESET | |
| IC1201 | BA033T | 3.3V REGULATOR | |
| IC1202 | BA05T-M1 | 5V REGULATOR | |
| IC2001 | MSP3405DPOA2 | AUDIO PROCESSOR | |
| **FUSES** | | | |
| F801 | 19181-3.15 | FUSE | ⚠ |
| F801-1 | EYF52BC | FUSE HOLDER | |
| F801-2 | EYF52BC | FUSE HOLDER | |
| F851 | TR5-T500 | FUSE | ⚠ |
| F852 | TR5-T1000 | FUSE | ⚠ |
| F853 | TR5-T500 | FUSE | ⚠ |

| Cct Ref | Parts Number | Description | |
|---|---|---|---|
| **DIODES** | | | |
| D002 | MTZJT-7716A | DIODE | |
| D003 | MTZJT-7716A | DIODE | |
| D260 | MA29W-ATA | DIODE | |
| D261 | MTZJT-7739C | DIODE | |
| D262 | MTZJT-7739C | DIODE | |
| D350 | MTZJT-777.5B | DIODE | |
| D351 | 1SR124-4AT82 | DIODE | |
| D352 | 1SR124-4AT82 | DIODE | |
| D353 | 1SR124-4AT82 | DIODE | |
| D370 | MA165TA5 | DIODE | |
| D371 | MA165TA5 | DIODE | |
| D372 | MA165TA5 | DIODE | |
| D401 | MA165TA5 | DIODE | |
| D402 | ERA15-02V3 | DIODE | |
| D403 | MTZJ33B | DIODE | |
| D501 | 1SR124-4AT82 | DIODE | |
| D502 | MTZJT-778.2A | DIODE | |
| D510 | 1SR124-4AT82 | DIODE | |
| D551 | MTZJT-778.2C | DIODE | |
| D552 | EU02 | DIODE | |
| D553 | TVSRU3AMLFB4 | DIODE | |
| D554 | TVSRU3AMLFB4 | DIODE | |
| D555 | MA165TA5 | DIODE | |
| D556 | ERD07-15L7 | DIODE | |
| D557 | RU3LFA1 | DIODE | |
| D559 | EU02 | DIODE | |
| D601 | MTZJT-775.1A | DIODE | |
| D603 | MA165TA5 | DIODE | |
| D606 | MA165TA5 | DIODE | |
| D607 | BZT03C240113 | DIODE | |
| D701 | SFH617A-20P6 | PHOTO COUPLER | ⚠ |
| D702 | MA165TA5 | DIODE | |
| D703 | MA165TA5 | DIODE | |
| D704 | MTZJT-775.6C | DIODE | |
| D705 | MA29TA5 | DIODE | |
| D706 | MA4036MTA | DIODE | |
| D751 | MA4051 | DIODE | |
| D752 | AU02V0 | DIODE | |
| D753 | MTZJT-7730D | DIODE | |
| D754 | MTZJT-7727D | DIODE | |
| D755 | MA165TA5 | DIODE | |
| D801 | 232266296706 | THERMISTOR | ⚠ |
| D802 | RBV4-08 | DIODE | |
| D803 | AU01V0 | DIODE | |
| D804 | SFH617A-20P6 | PHOTO COUPLER | ⚠ |
| D805 | 1SR124-4AT82 | DIODE | |
| D806 | 1SR124-4AT82 | DIODE | |
| D808 | TVSRU3AMLFA5 | DIODE | |
| D809 | R2KNLFA1 | DIODE | |
| D810 | MA165TA5 | DIODE | |
| D811 | 1SR124-4AT82 | DIODE | |

| Cct Ref | Parts Number | Description | |
|---|---|---|---|
| D812 | MA165TA5 | DIODE | |
| D813 | MTZJT-7720D | DIODE | |
| D814 | MTZJT-775.6A | DIODE | |
| D851 | TVSRU3AMLFA5 | DIODE | |
| D852 | TVSRU3AMLFA5 | DIODE | |
| D853 | 1SR124-4AT82 | DIODE | |
| D1101 | MTZJT-776.2A | DIODE | |
| D1104 | SLR56UR3FLF | LED | |
| D1106 | MA165TA5 | DIODE | |
| D1107 | MA165TA5 | DIODE | |
| D1201 | TVSS1WBS20 | DIODE | |
| D1202 | MA165TA5 | DIODE | |
| D1205 | MA165TA5 | DIODE | |
| D3101 | MTZJT-775.1A | DIODE | |
| **TRANSISTORS** | | | |
| Q253 | BC857B | TRANSISTOR | |
| Q255 | BC847B | TRANSISTOR | |
| Q351 | BC857B | TRANSISTOR | |
| Q401 | BC847B | TRANSISTOR | |
| Q402 | BC847B | TRANSISTOR | |
| Q501 | 2SD2398-M2 | TRANSISTOR | |
| Q551 | BU4508AFRB | TRANSISTOR | |
| Q601 | BC847B | TRANSISTOR | |
| Q602 | BC847B | TRANSISTOR | |
| Q603 | BC857B | TRANSISTOR | |
| Q606 | BC847B | TRANSISTOR | |
| Q701 | BC857B | TRANSISTOR | |
| Q702 | BC847B | TRANSISTOR | |
| Q751 | BC847B | TRANSISTOR | |
| Q752 | 2SK2538000LB | TRANSISTOR | |
| Q753 | BC557B/126 | TRANSISTOR | |
| Q851 | BC557B/126 | TRANSISTOR | |
| Q852 | 2SA684R | TRANSISTOR | |
| Q1101 | 2SD965-R | TRANSISTOR | |
| Q1102 | BC847B | TRANSISTOR | |
| Q1103 | BC847B | TRANSISTOR | |
| Q1104 | BC847B | TRANSISTOR | |
| Q1105 | BC847B | TRANSISTOR | |
| Q1106 | BC847B | TRANSISTOR | |
| Q1107 | BC847B | TRANSISTOR | |
| Q1109 | BC847B | TRANSISTOR | |
| Q1110 | BC847B | TRANSISTOR | |
| Q1201 | BC847B | TRANSISTOR | |
| Q1204 | BC847B | TRANSISTOR | |
| Q2001 | BC857B | TRANSISTOR | |
| Q2002 | BC857B | TRANSISTOR | |
| Q2003 | BC847B | TRANSISTOR | |
| Q2004 | BC847B | TRANSISTOR | |
| Q3104 | 2SC1318-S | TRANSISTOR | |
| **TRANSFORMERS** | | | |
| T553 | ETH19Z192AZ | TRANSFORMER | ⚠ |
| T801 | ETP35KAN619U | TRANSFORMER | ⚠ |
| T802 | 10653050-A | TRANSFORMER | ⚠ |
| **COILS** | | | |
| L001 | TALV35VB100K | COIL | |
| L502 | ELC08D682E | COIL | |
| L601 | TALV35VB100K | COIL | |
| L602 | TALV35VB100K | COIL | |
| L604 | EXCELDR35V | COIL | |
| L751 | ELC18B801L | COIL | |
| L752 | ELC10D822E | COIL | |
| L753 | EXCELSA35T | COIL | |
| L802 | EXCELSA35T | COIL | |
| L803 | EXCELDR35V | COIL | |
| L851 | EXCELSA35T | COIL | |

| Cct Ref | Parts Number | Description | | | |
|---|---|---|---|---|---|
| L852 | EXCELSA35T | COIL | | | |
| L853 | EXCELSA35T | COIL | | | |
| L1101 | TALV35VB331K | COIL | | | |
| L2001 | TALV35VB4R7K | COIL | | | |
| L2002 | TALV35VB4R7K | COIL | | | |
| L2004 | EXCELSA35T | COIL | | | |
| L2005 | TALV35VB6R8K | COIL | | | |
| L2006 | TALV35VB100K | COIL | | | |
| L3101 | TLT100K991R | COIL | | | |
| L3102 | TLT100K991R | COIL | | | |
| L3103 | EXCELSA35T | COIL | | | |
| L3104 | EXCELSA35T | COIL | | | |
| L3105 | TALV35VB100K | COIL | | | |
| L3107 | EXCELDR35V | COIL | | | |
| **FILTERS** | | | | | |
| L801 | ELF15N005A | LINE FILTER | | | |
| X103 | K3350K | SAW FILTER | | | |
| **CRYSTALS** | | | | | |
| X601 | TSSA010 | CRYSTAL | | | |
| X602 | EFCWS2F11T | CRYSTAL | | | |
| X2001 | 4730007158 | CRYSTAL | | | |
| **RESISTORS** | | | | | |
| JA41 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JSE26 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA1 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA2 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA3 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA4 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA5 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA6 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA7 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA9 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA10 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA11 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA12 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA15 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA16 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA18 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA19 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA20 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA21 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA27 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA28 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA29 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA30 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA31 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA32 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA33 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA34 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA36 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA37 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA38 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA39 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA40 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA42 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA43 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA44 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JA45 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JA46 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JSE1 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JSE2 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JSE11 | ERJ8GEY0R00 | S.M.CARB | .125W | 5% | 0Ω |
| JSE15 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JSE18 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |
| JSE29 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0Ω |

| Cct Ref | Parts Number | Description | | | | |
|---|---|---|---|---|---|---|
| JSE30 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| JSE33 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| JSE37 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| JSE43 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| JYA | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| R001 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R002 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R003 | ERJ6GEYJ153 | S.M.CARB | 0.1W | 5% | 15K Ω | |
| R004 | ERG2SJS273 | METAL | 2W | 5% | 27K Ω | ⚠ |
| R005 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| R006 | ERJ6GEYJ273 | S.M.CARB | 0.1W | 5% | 27K Ω | |
| R007 | ERJ6GEYJ302 | S.M.CARB | 0.1W | 5% | 3K Ω | |
| R008 | ERJ6GEYJ681 | S.M.CARB | 0.1W | 5% | 680 Ω | |
| R110 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| R241 | ERJ6GEYJ102 | S.M.CARB | 0.1W | 5% | 1K Ω | |
| R251 | ERJ6GEYJ680 | S.M.CARB | 0.1W | 5% | 68 Ω | |
| R252 | ERJ6GEYJ821 | S.M.CARB | 0.1W | 5% | 820 Ω | |
| R254 | ERJ6GEYJ680 | S.M.CARB | 0.1W | 5% | 68 Ω | |
| R256 | ERJ6GEYJ471 | S.M.CARB | 0.1W | 5% | 470 Ω | |
| R257 | ERJ6GEYJ360 | S.M.CARB | 0.1W | 5% | 36 Ω | |
| R258 | ERJ6GEYJ821 | S.M.CARB | 0.1W | 5% | 820 Ω | |
| R259 | ERJ6GEYJ360 | S.M.CARB | 0.1W | 5% | 36 Ω | |
| R260 | ERJ6GEYJ472 | S.M.CARB | 0.1W | 5% | 4K7 Ω | |
| R261 | ERJ6GEYJ471 | S.M.CARB | 0.1W | 5% | 470 Ω | |
| R262 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R263 | ERJ6GEYJ472 | S.M.CARB | 0.1W | 5% | 4K7 Ω | |
| R264 | ERJ6GEYJ512 | S.M.CARB | 0.1W | 5% | 5K1 Ω | |
| R265 | ERD25TJ2R2 | CARBON | 0.25W | 5% | 2R2 Ω | |
| R266 | ERD25TJ2R2 | CARBON | 0.25W | 5% | 2R2 Ω | |
| R268 | ERJ6GEYJ203 | S.M.CARB | 0.1W | 5% | 20K Ω | |
| R280 | ERJ6GEYJ204 | S.M.CARB | 0.1W | 5% | 200K Ω | |
| R281 | ERJ6GEYJ204 | S.M.CARB | 0.1W | 5% | 200K Ω | |
| R351 | ERDS1TJ182 | CARBON | 0.5W | 10% | 1K8 Ω | |
| R352 | ERDS1TJ182 | CARBON | 0.5W | 10% | 1K8 Ω | |
| R353 | ERDS1TJ182 | CARBON | 0.5W | 10% | 1K8 Ω | |
| R357 | ERDS1TJ102 | CARBON | 0.5W | 5% | 1K Ω | |
| R358 | ERDS1TJ102 | CARBON | 0.5W | 5% | 1K Ω | |
| R359 | ERDS1TJ102 | CARBON | 0.5W | 5% | 1K Ω | |
| R360 | ERG2SJS470H | METAL | 2W | 5% | 47 Ω | |
| R370 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R371 | ERJ6GEYJ391 | S.M.CARB | 0.1W | 5% | 390 Ω | |
| R401 | ERJ6GEYJ473 | S.M.CARB | 0.1W | 5% | 47K Ω | |
| R402 | ERJ6GEYJ332 | S.M.CARB | 0.1W | 5% | 3K3 Ω | |
| R403 | ERJ6ENF2701 | S.M.CARB | 0.1W | 5% | 27 Ω | |
| R404 | ERJ6ENF2701 | S.M.CARB | 0.1W | 5% | 27 Ω | |
| R405 | ERJ6ENF2701 | S.M.CARB | 0.1W | 5% | 27 Ω | |
| R406 | ERJ6GEYJ1R0 | S.M.CARB | 0.1W | 5% | 1 Ω | |
| R407 | ERDS1TJ471 | CARBON | 0.5W | 5% | 470 Ω | |
| R408 | ERDS1TJ471 | CARBON | 0.5W | 5% | 470 Ω | |
| R409 | ERJ6GEYJ473 | S.M.CARB | 0.1W | 5% | 47K Ω | |
| R410 | ERJ6GEYJ683 | S.M.CARB | 0.1W | 5% | 68K Ω | |
| R411 | ERJ6GEYJ821 | S.M.CARB | 0.1W | 5% | 820 Ω | |
| R415 | ERJ6ENF2701 | S.M.CARB | 0.1W | 5% | 27 Ω | |
| R501 | ERJ6GEYJ391 | S.M.CARB | 0.1W | 5% | 390 Ω | |
| R502 | ERD25TJ272F | CARBON | 0.25W | 5% | 2K7 Ω | |
| R503 | ERG3SJS220H | METAL | 3W | 5% | 22 Ω | |
| R504 | ERG2ANJP471H | METAL | 2W | 5% | 470 Ω | |
| R507 | ERJ6GEYJ122 | S.M.CARB | 0.1W | 5% | 1K2 Ω | |
| R553 | ERJ6GEYJ273 | S.M.CARB | 0.1W | 5% | 27K Ω | |
| R556 | ERG1SJ183 | METAL | 1W | 5% | 18K Ω | |
| R557 | ERDS1TJ184 | CARBON | 0.5W | 5% | 180 Ω | |
| R558 | ERD25TJ183 | CARBON | 0.25W | 5% | 18K Ω | |
| R560 | ERQ1CJP102 | FUSIBLE | 1W | 5% | 1K Ω | ⚠ |
| R561 | ERQ12AJ101 | FUSIBLE | 0.5W | 5% | 100 Ω | ⚠ |
| R601 | ERJ6GEYJ153 | S.M.CARB | 0.1W | 5% | 15K Ω | |
| R602 | ERJ6ENF3001 | S.M.CARB | 0.5W | 5% | 30 Ω | |

| Cct Ref | Parts Number | Description | | | | |
|---|---|---|---|---|---|---|
| R603 | ERJ6GEYJ393 | S.M.CARB | 0.1W | 5% | 39K Ω | |
| R604 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R605 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R606 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R607 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R608 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R609 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R610 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R611 | ERJ6GEYJ102 | S.M.CARB | 0.1W | 5% | 1K Ω | |
| R612 | ERJ6GEYJ102 | S.M.CARB | 0.1W | 5% | 1K Ω | |
| R613 | ERJ6GEYJ391 | S.M.CARB | 0.1W | 5% | 390 Ω | |
| R614 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R615 | ERJ6GEYJ470 | S.M.CARB | 0.1W | 5% | 47 Ω | |
| R616 | ERJ6GEYJ201 | S.M.CARB | 0.1W | 5% | 200 Ω | |
| R617 | ERJ6GEYJ181 | S.M.CARB | 0.1W | 5% | 180 Ω | |
| R618 | ERJ6GEYJ470 | S.M.CARB | 0.1W | 5% | 47 Ω | |
| R619 | ERJ6GEYJ471 | S.M.CARB | 0.1W | 5% | 470 Ω | |
| R620 | ERJ6GEYJ471 | S.M.CARB | 0.1W | 5% | 470 Ω | |
| R621 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R622 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R623 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| R624 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R625 | ERJ6GEYJ222 | S.M.CARB | 0.1W | 5% | 2K2 Ω | |
| R626 | ERJ6GEYJ474 | S.M.CARB | 0.1W | 5% | 470K Ω | |
| R627 | ERJ6GEYJ474 | S.M.CARB | 0.1W | 5% | 470K Ω | |
| R628 | ERDS1TJ684 | CARBON | 0.5W | 5% | 680K Ω | |
| R629 | ERJ6GEYJ154 | S.M.CARB | 0.1W | 5% | 150K Ω | |
| R630 | ERJ6ENF1802 | S.M.CARB | 0.1W | 5% | 1K8 Ω | |
| R631 | ERO50PKF5603 | METAL | 0.5W | 1% | 560K Ω | ⚠ |
| R632 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R633 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R635 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R638 | ERJ6GEYJ151 | S.M.CARB | 0.1W | 5% | 150 Ω | |
| R639 | ERJ6GEYJ471 | S.M.CARB | 0.1W | 5% | 470 Ω | |
| R646 | ERJ6GEYJ100 | S.M.CARB | 0.1W | 5% | 10 Ω | |
| R701 | ERJ6GEYJ102 | S.M.CARB | 0.1W | 5% | 1K Ω | |
| R702 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R703 | ERJ6GEYJ392 | S.M.CARB | 0.1W | 5% | 3K9 Ω | |
| R704 | ERJ6GEYJ562 | S.M.CARB | 0.1W | 5% | 5K6 Ω | |
| R705 | ERDS1TJ821 | CARBON | 0.5W | 5% | 820 Ω | |
| R706 | ERJ6GEYJ563 | S.M.CARB | 0.1W | 5% | 56K Ω | |
| R707 | ERJ6GEYJ104 | S.M.CARB | 0.1W | 5% | 100K Ω | |
| R708 | ERJ6GEYJ273 | S.M.CARB | 0.1W | 5% | 27K Ω | |
| R709 | ERJ6GEYJ393 | S.M.CARB | 0.1W | 5% | 39K Ω | |
| R710 | ERJ6GEYJ393 | S.M.CARB | 0.1W | 5% | 39K Ω | |
| R711 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R712 | ERJ6GEYJ391 | S.M.CARB | 0.1W | 5% | 390 Ω | |
| R713 | ERG1SJ101 | METAL | 1W | 5% | 100 Ω | |
| R715 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R716 | ERJ6GEYJ432 | S.M.CARB | 0.1W | 5% | 4K3 Ω | |
| R717 | ERJ6GEYJ392 | S.M.CARB | 0.1W | 5% | 3K9 Ω | |
| R751 | ERJ6GEYJ152 | S.M.CARB | 0.1W | 5% | 1K5 Ω | |
| R752 | ERJ6GEYJ222 | S.M.CARB | 0.1W | 5% | 2K2 Ω | |
| R753 | ERJ6GEYJ152 | S.M.CARB | 0.1W | 5% | 1K5 Ω | |
| R754 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R756 | ERDS1TJ472 | CARBON | 0.5W | 5% | 4K7 Ω | |
| R757 | ERJ6GEYJ680 | S.M.CARB | 0.1W | 5% | 68 Ω | |
| R758 | ERJ6GEYJ392 | S.M.CARB | 0.1W | 5% | 3K9 Ω | |
| R759 | ERQ12HJ8R2 | FUSIBLE | 0.5W | 5% | 8R2 Ω | ⚠ |
| R760 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R761 | ERG1SJ563 | METAL | 1W | 5% | 56K Ω | |
| R762 | ERJ6GEYJ102 | S.M.CARB | 0.1W | 5% | 1K Ω | |
| R763 | ERG3FJ561H | METAL | 2W | 5% | 560 Ω | |
| R802 | ERC12ZGK335D | SOLID | 0.5W | 10% | 3M3 Ω | ⚠ |
| R803 | ERF7ZK2R7 | WOUND | 7W | 20% | 2R7 Ω | ⚠ |
| R804 | ERG2ANJP104H | METAL | 2W | 5% | 100K Ω | |

| Cct Ref | Parts Number | Description | | | | |
|---|---|---|---|---|---|---|
| R805 | ERDS1TJ103 | CARBON | 0.5W | 5% | 10K Ω | |
| R806 | ERDS1TJ332 | CARBON | 0.5W | 5% | 3K3 Ω | |
| R809 | ERW2PKR33 | WOUND | 2W | 20% | R33 Ω | ⚠ |
| R810 | ERDS1TJ152 | CARBON | 0.5W | 5% | 1K5 Ω | |
| R811 | ERQ12HJ100 | FUSIBLE | 0.5W | 5% | 10 Ω | ⚠ |
| R812 | ERD75TAJ825 | CARBON | 0.75W | 5% | 8M2 Ω | ⚠ |
| R813 | ERDS1TJ103 | CARBON | 0.5W | 5% | 10K Ω | |
| R814 | ERDS1TJ330 | CARBON | 0.5W | 5% | 33 Ω | |
| R815 | ERDS1TJ681 | CARBON | 0.5W | 5% | 680 Ω | |
| R851 | ERG2SJS220H | METAL | 2W | 5% | 220 Ω | |
| R852 | ERG2SJS130H | METAL | 2W | 5% | 13 Ω | |
| R855 | ERDS1TJ4R7 | CARBON | 0.5W | 5% | 4R7 Ω | |
| R856 | ERD25TJ101 | CARBON | 0.25W | 5% | 100 Ω | |
| R857 | ERD25TJ202 | CARBON | 0.25W | 5% | 2K Ω | |
| R858 | ERDS1TJ103 | CARBON | 0.5W | 5% | 10K Ω | |
| R1101 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1102 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1104 | ERJ6GEYJ562 | S.M.CARB | 0.1W | 5% | 5K6 Ω | |
| R1105 | ERJ6GEYJ562 | S.M.CARB | 0.1W | 5% | 5K6 Ω | |
| R1106 | ERJ6GEYJ184 | S.M.CARB | 0.1W | 5% | 180K Ω | |
| R1107 | ERJ6GEYJ563 | S.M.CARB | 0.1W | 5% | 56K Ω | |
| R1108 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R1110 | ERJ6GEYJ102 | S.M.CARB | 0.1W | 5% | 1K Ω | |
| R1112 | ERJ6GEYJ362 | S.M. CAR | 0.1W | 5% | 3K6 Ω | |
| R1113 | ERJ6GEYJ242 | S.M.CARB | 0.1W | 5% | 2K4 Ω | |
| R1114 | ERJ6GEYJ432 | S.M.CARB | 0.1W | 5% | 4K3 Ω | |
| R1115 | ERJ6GEYJ822 | S.M.CARB | 0.1W | 5% | 8K2 Ω | |
| R1116 | ERJ6GEYJ183 | S.M.CARB | 0.1W | 5% | 18K Ω | |
| R1117 | ERJ6GEYJ821 | S.M.CARB | 0.1W | 5% | 820 Ω | |
| R1118 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1119 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1120 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1121 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1122 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1125 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1127 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1128 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1129 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R1130 | ERJ6GEYJ473 | S.M.CARB | 0.1W | 5% | 47K Ω | |
| R1131 | ERJ6GEYJ472 | S.M.CARB | 0.1W | 5% | 4K7 Ω | |
| R1132 | ERJ6GEYJ225 | S.M.CARB | 0.1W | 5% | 2M2 Ω | |
| R1133 | ERJ6GEYJ104 | S.M.CARB | 0.1W | 5% | 100K Ω | |
| R1134 | ERJ6GEYJ224 | S.M.CARB | 0.1W | 5% | 220K Ω | |
| R1135 | ERJ6GEYJ102 | S.M.CARB | 0.1W | 5% | 1K Ω | |
| R1136 | ERJ6GEYJ221 | S.M.CARB | 0.1W | 5% | 220 Ω | |
| R1137 | ERJ6GEYJ104 | S.M.CARB | 0.1W | 5% | 100K Ω | |
| R1138 | ERJ6GEYJ223 | S.M.CARB | 0.1W | 5% | 22K Ω | |
| R1139 | ERJ6GEYJ273 | S.M.CARB | 0.1W | 5% | 27K Ω | |
| R1140 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R1141 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R1144 | ERJ6GEYJ183 | S.M.CARB | 0.1W | 5% | 18K Ω | |
| R1145 | ERJ6GEYJ104 | S.M.CARB | 0.1W | 5% | 100K Ω | |
| R1146 | ERJ6GEYJ473 | S.M.CARB | 0.1W | 5% | 47K Ω | |
| R1147 | ERJ6GEYJ184 | S.M.CARB | 0.1W | 5% | 180K Ω | |
| R1148 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R1149 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R1150 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R1202 | ERDS1TJ680 | CARBON | 0.5W | 5% | 68 Ω | |
| R1205 | ERJ6GEYJ152 | S.M.CARB | 0.1W | 5% | 1K5 Ω | |
| R1206 | ERJ6GEYJ223 | S.M.CARB | 0.1W | 5% | 22K Ω | |
| R1209 | ERDS1TJ560 | CARBON | 0.5W | 5% | 56 Ω | |
| R1283 | P1201 | SENSOR | | | Ω | |
| R2001 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R2002 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R2003 | ERJ6GEYJ222 | S.M.CARB | 0.1W | 5% | 2K2 Ω | |
| R2004 | ERJ6GEYJ222 | S.M.CARB | 0.1W | 5% | 2K2 Ω | |

| Cct Ref | Parts Number | Description | | | | |
|---|---|---|---|---|---|---|
| R2007 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R2008 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R2009 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R2010 | ERJ6GEYJ471 | S.M.CARB | 0.1W | 5% | 470 Ω | |
| R2011 | ERJ6GEYJ153 | S.M.CARB | 0.1W | 5% | 15K Ω | |
| R2012 | ERJ6GEYJ153 | S.M.CARB | 0.1W | 5% | 15K Ω | |
| R2013 | ERJ6GEYJ471 | S.M.CARB | 0.1W | 5% | 470 Ω | |
| R2014 | ERJ6GEYJ471 | S.M.CARB | 0.1W | 5% | 470 Ω | |
| R2015 | ERJ6GEYJ102 | S.M.CARB | 0.1W | 5% | 1K Ω | |
| R2016 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R2017 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R2018 | ERJ6GEYJ681 | S.M.CARB | 0.1W | 5% | 680 Ω | |
| R2020 | ERJ6GEYJ202 | S.M.CARB | 0.1W | 5% | 2K Ω | |
| R2021 | ERJ6GEYJ103 | S.M.CARB | 0.1W | 5% | 10K Ω | |
| R2022 | ERJ6GEYJ303 | S.M.CARB | 0.1W | 5% | 30K Ω | |
| R3106 | ERJ6GEYJ101 | S.M.CARB | 0.1W | 5% | 100 Ω | |
| R3111 | ERDS1TJ101 | CARBON | 0.5W | 5% | 100 Ω | |
| R3115 | ERJ6GEYJ151 | S.M.CARB | 0.1W | 5% | 150 Ω | |
| R3116 | ERJ6GEYJ750 | S.M.CARB | 0.1W | 5% | 75 Ω | |
| R3117 | ERJ6GEYJ750 | S.M.CARB | 0.1W | 5% | 75 Ω | |
| R3118 | ERJ6GEYJ750 | S.M.CARB | 0.1W | 5% | 75 Ω | |
| R3120 | ERDS1TJ750 | CARBON | 0.5W | 5% | 75 Ω | |
| R3121 | ERJ6GEYJ334 | S.M.CARB | 0.1W | 5% | 330K Ω | |
| R3122 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| R3123 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| R3124 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| R3125 | ERJ6GEYJ104 | S.M.CARB | 0.1W | 5% | 100K Ω | |
| R3129 | ERDS1TJ750 | CARBON | 0.5W | 5% | 75 Ω | |
| R3130 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| R3131 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| R3132 | ERJ6GEYJ221 | S.M.CARB | 0.1W | 5% | 220 Ω | |
| R3133 | ERJ6GEYJ221 | S.M.CARB | 0.1W | 5% | 220 Ω | |
| R3134 | ERJ6GEY0R00 | S.M.CARB | 0.1W | 5% | 0 Ω | |
| **CAPACITORS** | | | | | | |
| C001 | ECA1CM220GB | ELECT | 16V | | 22µF | |
| C002 | ECJ2VF1H104Z | ELECT | 350V | | 100nF | |
| C005 | ECJ2VF1H104Z | ELECT | 350V | | 100nF | |
| C006 | ECEA1HU101 | ELECT | 50V | | 100µF | |
| C007 | ECA1HM330B | ELECT | 50V | | 33µF | |
| C008 | ECEA1HU010 | ELECT | 50V | | 1pF | |
| C009 | ECUV1H100DCX | S.M. CAP | 50V | | 10pF | |
| C010 | ECUV1H100DCX | S.M. CAP | 50V | | 10pF | |
| C117 | ECJ2VB1H103K | ELECT | 350V | | 10nF | |
| C118 | ECJ2VB1H103K | ELECT | 350V | | 10nF | |
| C251 | ECEA1HU101 | ELECT | 50V | | 100µF | |
| C252 | ECJ2VB1H223K | ELECT | 350V | | 22nF | |
| C253 | ECKC1H103J | CERAMIC | 50V | | 100µF | |
| C254 | ECQV1H334JL3 | FILM | 50V | | 330nF | |
| C255 | ECEA1CU470 | ELECT | 16V | | 47µF | |
| C256 | ECJ2VB1H223K | ELECT | 350V | | 22nF | |
| C257 | ECA1CHG102B | ELECT | 10V | | 1000µF | |
| C258 | ECEA1HU101 | ELECT | 50V | | 100µF | |
| C259 | ECQV1H334JL3 | FILM | 50V | | 330nF | |
| C260 | ECA1VM102GB | ELECT | 35V | | 1nF | |
| C261 | ECA1VM102GB | ELECT | 35V | | 1nF | |
| C262 | ECEA1HU3R3 | ELECT | 50V | | 3R3µF | |
| C263 | ECEA1HU010 | ELECT | 50V | | 1pF | |
| C264 | ECA1HHG222E | ELECT | 50V | | 2200µF | |
| C265 | ECEA1HU3R3 | ELECT | 50V | | 3R3µF | |
| C266 | ECEA1HU010 | ELECT | 50V | | 1pF | |
| C267 | ECJ2YB1H104K | ELECT | 350V | | 100nF | |
| C268 | ECJ2YB1H104K | ELECT | 350V | | 100nF | |
| C270 | ECJ2YB1H104K | ELECT | 350V | | 100nF | |
| C351 | ECA2EM010B | ELECT | 250V | | 1µF | |
| C352 | ECKC2H152J | CERAMIC | 500V | | 1.5nF | ⚠ |
| C353 | ECA2EM100B | ELECT | 250V | | 10µF | |

| Cct Ref | Parts Number | Description | | | |
|---|---|---|---|---|---|
| C354 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C356 | ECUV1H102ZFX | S.M. CAP | 50V | 1nF | |
| C357 | ECKC3D152J | CERAMIC | 2KV | 1.5nF | ⚠ |
| C358 | ECUV1H561KBX | S.M. CAP | 50V | 560pF | |
| C370 | ECEA1CU221 | ELECT | 16V | 220pF | |
| C405 | ECUV1H100CCX | S.M. CAP | 50V | 10pF | |
| C406 | ECA1HHG101B | ELECT | 50V | 100µF | |
| C408 | ECQV1H274JL3 | FILM | 50V | 270nF | |
| C409 | ECEA1HU2R2 | ELECT | 50V | 2R2µF | |
| C410 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C501 | EEUFC1H390B | CERAMIC | 50V | 390pF | |
| C502 | ECQB1273J | FILM | 100V | 27nF | |
| C504 | ECUV1H222JCX | S.M. CAP | 50V | 2.2nF | |
| C551 | ECUV1H220JCX | S.M. CAP | 50V | 22pF | |
| C552 | ECA2EM100B | ELECT | 250V | 10µF | |
| C554 | ECA1VM471GB | ELECT | 35V | 470µF | |
| C555 | ECKC2H471J | CERAMIC | 500V | 470pF | ⚠ |
| C556 | ECKC2H471J | CERAMIC | 500V | 470pF | ⚠ |
| C557 | ECKC2H331J | CERAMIC | 500V | 330pF | ⚠ |
| C558 | ECA2CM3R3B | ELECT | 160V | 3R3µF | |
| C560 | ECQF4273JZH | FILM | 400V | 27nF | ⚠ |
| C562 | ECA2GHG2R2B | ELECT | 400V | 27nF | |
| C564 | ECA1VM471GB | ELECT | 35V | 470µF | |
| C565 | ECKC2H471J | CERAMIC | 500V | 470pF | ⚠ |
| C566 | ECA1VM471GB | ELECT | 35V | 470µF | |
| C567 | ECKC3D681J | CERAMIC | 2KV | 680pF | ⚠ |
| C570 | ECKC2H152J | CERAMIC | 500V | 1.5nF | ⚠ |
| C601 | ECA1CM102B | ELECT | 16V | 1000µF | |
| C602 | ECJ2YB1H104K | ELECT | 350V | 100nF | |
| C603 | ECJ2VB1H472K | ELECT | 350V | 4.7nF | |
| C604 | ECQV1H224JL3 | FILM | 50V | 220nF | |
| C605 | ECQV1H224JL3 | FILM | 50V | 220nF | |
| C606 | ECUV1H222JCX | S.M. CAP | 50V | 2.2nF | |
| C607 | ECEA1HU010 | ELECT | 50V | 1pF | |
| C608 | ECEA1HU2R2 | ELECT | 50V | 2R2µF | |
| C609 | ECJ2YB1H104K | ELECT | 350V | 100nF | |
| C610 | ECJ2VB1H103K | ELECT | 350V | 10nF | |
| C612 | ECJ2VB1H472K | ELECT | 350V | 4.7nF | |
| C613 | ECJ2VB1H472K | ELECT | 350V | 4.7nF | |
| C614 | ECQV1H104J | FILM | 50V | 100nF | |
| C615 | ECQV1H224JL3 | FILM | 50V | 220nF | |
| C618 | ECEA1CU100 | ELECT | 16V | 10µF | |
| C620 | ECUV1H470GCG | S.M. CAP | 50V | 47pF | |
| C621 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C622 | ECUV1H101JCX | S.M. CAP | 50V | 100pF | |
| C623 | ECUV1H220GCG | S.M. CAP | 50V | 22pF | |
| C624 | ECQB1H223K | FILM | 50V | 22nF | |
| C625 | ECQB1H223K | FILM | 50V | 22nF | |
| C626 | ECQB1H223K | FILM | 50V | 22nF | |
| C627 | ECJ2YB1H473K | ELECT | 350V | 47nF | |
| C628 | ECJ2YB1H473K | ELECT | 350V | 47nF | |
| C629 | ECJ2YB1H104K | ELECT | 350V | 100nF | |
| C630 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C631 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C632 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C633 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C634 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C635 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C636 | ECA1CM102B | ELECT | 16V | 1000µF | |
| C637 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C638 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C639 | ECA1HM220GB | ELECT | 50V | 22µF | |
| C640 | ECEA1HU2R2 | ELECT | 50V | 2R2µF | |
| C642 | ECEA1HU010 | ELECT | 50V | 1pF | |
| C646 | ECJ2YB1H104K | ELECT | 350V | 100nF | |
| C650 | ECUV1H390JCX | S.M. CAP | 50V | 39pF | |

| Cct Ref | Parts Number | Description | | | |
|---|---|---|---|---|---|
| C651 | ECUV1H390JCX | S.M. CAP | 50V | 39pF | |
| C652 | ECUV1H390JCX | S.M. CAP | 50V | 39pF | |
| C653 | ECJ2YB1H683K | ELECT | 350V | 68nF | |
| C654 | ECJ2VB1H103K | ELECT | 350V | 10nF | |
| C701 | ECEA1HU100 | ELECT | 50V | 10µF | |
| C702 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C703 | ECA1HHG100B | ELECT | 50V | 10µF | |
| C704 | ECQB1H122J | FILM | 50V | 1.2nF | |
| C705 | ECQB1H223K | FILM | 50V | 22nF | |
| C706 | ECQP1152GZ | FILM | 200V | 1500nF | |
| C707 | ECQP1102JZ3 | FILM | 100V | 1pF | |
| C708 | ECA1HM220GB | ELECT | 50V | 22µF | |
| C752 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C753 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C754 | ECA1JM101B | ELECT | 63V | 100µF | |
| C755 | ECKC2H471J | CERAMIC | 500V | 470pF | ⚠ |
| C802 | ECKWNA332MEC | CERAMIC | 250V | 3.3nF | ⚠ |
| C803 | ECKWNA152MEC | CERAMIC | 400V | 1.5nF | ⚠ |
| C805 | ECQE2A474MWB | FILM | 250V | 470nF | ⚠ |
| C806 | ECKC2H472J | CERAMIC | 500V | 4.7nF | ⚠ |
| C807 | ECKC2H472J | CERAMIC | 500V | 4.7nF | ⚠ |
| C808 | ECKC2H472J | CERAMIC | 500V | 4.7nF | ⚠ |
| C809 | ECOS2GA151BB | ELECT | 400V | 150pF | |
| C810 | ECA1HHG101B | ELECT | 50V | 100µF | |
| C811 | ECKC1H471J | CERAMIC | 50V | 470pF | |
| C812 | ECKC3A182J | CERAMIC | 1KV | 1800pF | ⚠ |
| C813 | ECKW3D221JBN | CERAMIC | 2KV | 220pF | |
| C814 | ECKC3D102J | CERAMIC | 2KV | 1nF | ⚠ |
| C815 | ECA2CHG221E | ELECT | 160V | 220µF | |
| C816 | ECKC2H472J | CERAMIC | 500V | 4.7nF | ⚠ |
| C818 | ECQB1H683K | FILM | 50V | 68nF | |
| C851 | ECEA1CU471 | ELECT | 16V | 470µF | |
| C854 | ECKC2H471J | CERAMIC | 500V | 470pF | ⚠ |
| C855 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C856 | ECA1VM471GB | ELECT | 35V | 470µF | |
| C857 | ECEA1CU471 | ELECT | 16V | 470µF | |
| C858 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C859 | ECA1HHG471E | ELECT | 50V | 470µF | |
| C860 | ECA1VHG331B | ELECT | 35V | 330pF | |
| C1101 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C1102 | ECA1CM220GB | ELECT | 16V | 22µF | |
| C1103 | ECUV1H331JCX | S.M. CAP | 50V | 330pF | |
| C1104 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C1105 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C1106 | ECEA1HU010 | ELECT | 50V | 1pF | |
| C1107 | ECUV1H221JCX | S.M. CAP | 50V | 220pF | |
| C1108 | ECUV1H221JCX | S.M. CAP | 50V | 220pF | |
| C1201 | ECEA1CU471 | ELECT | 16V | 470µF | |
| C1202 | ECQV1H334JL3 | FILM | 50V | 330nF | |
| C1203 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C1204 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C1205 | ECJ2VF1C334Z | ELECT | 350V | 330nF | |
| C1210 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C2001 | ECJ2VB1H103K | ELECT | 350V | 10nF | |
| C2002 | ECJ2VB1H103K | ELECT | 350V | 10nF | |
| C2003 | ECEA1HU101 | ELECT | 50V | 100µF | |
| C2004 | ECJ2VF1H104Z | ELECT | 350V | 100nF | |
| C2005 | ECUV1H102JCX | S.M. CAP | 50V | 1nF | |
| C2006 | ECUV1H102JCX | S.M. CAP | 50V | 1nF | |
| C2007 | ECUV1H102JCX | S.M. CAP | 50V | 1nF | |
| C2008 | ECUV1H010CCX | S.M. CAP | 50V | 1pF | |
| C2009 | ECUV1H010CCX | S.M. CAP | 50V | 1pF | |
| C2012 | ECUV1H470JCX | S.M. CAP | 50V | 47pF | |
| C2013 | ECUV1H070DTX | S.M. CAP | 50V | 70pF | |
| C2014 | ECUV1H560GCG | S.M. CAP | 50V | 56pF | |
| C2015 | ECUV1H220JCX | S.M. CAP | 50V | 22pF | |

| Cct Ref | Parts Number | Description | | |
|---|---|---|---|---|
| C2016 | ECJ2VF1H104Z | ELECT | 350V | 100nF |
| C2017 | ECJ2VF1H104Z | ELECT | 350V | 100nF |
| C2018 | ECEA1CU100 | ELECT | 16V | 10µF |
| C2019 | ECEA1HU101 | ELECT | 50V | 100µF |
| C2020 | ECQV1H474JZ | FILM | 50V | 470nF |
| C2021 | ECQV1H474JZ | FILM | 50V | 470nF |
| C2022 | ECUV1H221JCX | S.M. CAP | 50V | 220pF |
| C2023 | ECUV1H221JCX | S.M. CAP | 50V | 220pF |
| C2024 | ECJ2VF1H104Z | ELECT | 350V | 100nF |
| C2025 | ECEA1HU2R2 | ELECT | 50V | 2R2µF |
| C2026 | ECEA1CU100 | ELECT | 16V | 10µF |
| C2027 | ECEA1HU101 | ELECT | 50V | 100µF |
| C2029 | ECEA1CU470 | ELECT | 16V | 47µF |
| C2030 | ECEA1CU470 | ELECT | 16V | 47µF |
| C2031 | ECUV1H102JCX | S.M. CAP | 50V | 1nF |
| C2032 | ECUV1H102JCX | S.M. CAP | 50V | 1nF |
| C2033 | ECJ2VF1H104Z | ELECT | 350V | 100nF |
| C2036 | ECUV1H471JCX | S.M. CAP | 50V | 470pF |
| C2037 | ECUV1H221JCX | S.M. CAP | 50V | 220pF |
| C2038 | ECJ2VB1H103K | ELECT | 350V | 10nF |
| C2039 | ECJ2VF1H104Z | ELECT | 350V | 100nF |
| C2040 | ECEA1HU101 | ELECT | 50V | 100µF |
| C2041 | ECUV1H100DCX | S.M. CAP | 50V | 10pF |
| C2042 | ECUV1H100DCX | S.M. CAP | 50V | 10pF |
| C3103 | ECEA1HU101 | ELECT | 50V | 100µF |
| C3104 | ECJ2VF1H104Z | ELECT | 350V | 100nF |
| C3109 | ECUV1H222KBX | S.M. CAP | 50V | 2.2nF |
| C3110 | ECUV1H222KBX | S.M. CAP | 50V | 2.2nF |
| C3111 | ECUV1H222KBX | S.M. CAP | 50V | 2.2nF |
| C3112 | ECUV1H222KBX | S.M. CAP | 50V | 2.2nF |
| C3113 | ECUV1H222KBX | S.M. CAP | 50V | 2.2nF |
| C3114 | ECUV1H222KBX | S.M. CAP | 50V | 2.2nF |
| C3116 | ECUV1H561KBX | S.M. CAP | 50V | 560pF |
| C3117 | ECUV1H561KBX | S.M. CAP | 50V | 560pF |
| **TERMINALS AND LINKS** | | | | |
| JK3101 | TJB16673 | A.V. TERMINAL | | |
| JK3102 | TJB8E011 | 21 PIN SOCKET | | |
| **SWITCHES** | | | | |
| S801 | ESB92S11B | SWITCH | | ⚠ |
| S1101 | EVQ21405R | SWITCH | | |
| S1102 | EVQ21405R | SWITCH | | |
| S1103 | EVQ21405R | SWITCH | | |
| S1104 | EVQ21405R | SWITCH | | |
| S1105 | EVQ21405R | SWITCH | | |
| **RELAYS** | | | | |
| RL801 | DJ5D1-0M | RELAY | | ⚠ |

## DIFFERENCES FOR MODEL TX--25LK1C

**EXPLODED VIEW**

| | | | |
|---|---|---|---|
| 15 | A59EEQ15X97 | C.R.T. | ⚠ |
| 16 | TKY8E530 | CABINET | |
| 17 | TLK8E05162 | DEGAUSS COIL | ⚠ |
| 18 | TNP8EE011DV | E PCB | ⚠ |
| 19 | TBM8E2005-1 | MODEL LABEL | |
| 20 | TKU8E00610 | REAR COVER | ⚠ |
| 21 | TNP8EY015AG | Y P.C.B. | ⚠ |

**MISCELLANEOUS COMPONENTS**

| | | |
|---|---|---|
| . | TPC8E4832 | CARTON |
| . | TPD8E728 | TOP CUSHON |
| . | TPD8E729 | BOTTOM CUSHION |

**INSTRUCTION BOOKS**

| | | |
|---|---|---|
| | TQB8E2938A-1 | GERMAN ⚠ |
| | TQB8E2938B-1 | DUTCH ⚠ |
| | TQB8E2938C-1 | ITALIAN ⚠ |

**I.C.s**

| | | |
|---|---|---|
| IC1103 | XPK2-2KCZ | EAROM* ⚠ |

**COILS**

| | | |
|---|---|---|
| L501 | ELH5L4119 | COIL |

**RESISTORS**

| | | | | | |
|---|---|---|---|---|---|
| R416 | ERDS1TJ1R0 | CARBON | 0.5W | 5% | 1 Ω |
| R417 | ERDS1TJ1R0 | CARBON | 0.5W | 5% | 1 Ω |
| R559 | ERQ1ZJP1R5S | FUSIBLE | 1W | 5% | 1R5 Ω ⚠ |

**CAPACITORS**

| | | | | |
|---|---|---|---|---|
| C559 | ECWH20103JVB | FILM | 200V | 10nF |
| C563 | ECWF2334JBB | FILM | 200V | 330nF |
| C751 | ECWF2684JBB | FILM | 500V | 680nF |

## DIFFERENCES FOR MODEL TX--28LK1C

**EXPLODED VIEW**

| | | | |
|---|---|---|---|
| 15 | A66ECF50X04 | C.R.T. | ⚠ |
| 16 | TKY8E520 | CABINET | ⚠ |
| 17 | TLK8E05140 | DEGAUSS COIL | ⚠ |
| 18 | TNP8EE011EA | E PCB | ⚠ |
| 19 | TBM8E2004-1 | MODEL LABEL | ⚠ |
| 20 | TKU8E00620 | REAR COVER | ⚠ |
| 21 | TNP8EY015AH | Y P.C.B. | ⚠ |

**MISCELLANEOUS COMPONENTS**

| | | |
|---|---|---|
| . | TPC8E4831 | CARTON |
| . | TPD8E726 | TOP CUSHON |
| . | TPD8E727 | BOTTOM CUSHION |

**INSTRUCTION BOOKS**

| | | |
|---|---|---|
| | TQB8E2938A-1 | GERMAN ⚠ |
| | TQB8E2938B-1 | DUTCH ⚠ |
| | TQB8E2938C-1 | ITALIAN ⚠ |

**I.C.s**

| | | |
|---|---|---|
| IC1103 | XPK2-3MCZ | EAROM* ⚠ |

**COILS**

| | | |
|---|---|---|
| L501 | ELH5L4105 | COIL |

**RESISTORS**

| | | | | | |
|---|---|---|---|---|---|
| R416 | ERDS1TJ1R5 | CARBON | 0.5W | 5% | 1R5 Ω |
| R417 | ERDS1TJ1R2 | CARBON | 0.5W | 5% | 1R2 Ω |
| R418 | ERDS1TJ1R2 | CARBON | 0.5W | 5% | 1R2 Ω |
| R559 | ERQ1ABJP3R0S | METAL | 0.5W | 5% | 3R0 Ω ⚠ |

**CAPACITORS**

| | | | | |
|---|---|---|---|---|
| C559 | ECWH20123JVB | FILM | 200V | 12F |
| C563 | ECWF2394JBB | FILM | 250V | 0.39µF |
| C751 | ECWF2334JBB | FILM | 200V | 330nF |

## DIFFERENCES FOR MODEL TX--28SK1C

**EXPLODED VIEW**

| | | | |
|---|---|---|---|
| 15 | A66ECF50X04 | C.R.T. | ⚠ |
| 16 | TKY8E522 | CABINET | |
| 17 | TLK8E05140 | DEGAUSS COIL | ⚠ |
| 18 | TNP8EE011ED | E PCB | ⚠ |
| 19 | TBM8E2035 | MODEL LABEL | ⚠ |
| 20 | TKU8E00620 | REAR COVER | ⚠ |
| 21 | TNP8EY015AH | Y P.C.B. | ⚠ |

**MISCELLANEOUS COMPONENTS**

| | | |
|---|---|---|
| . | TPC8E4833 | CARTON |
| . | TPD8E726 | TOP CUSHON |
| . | TPD8E727 | BOTTOM CUSHION |

| Cct Ref | Parts Number | Description | | | | |
|---|---|---|---|---|---|---|
| **INSTRUCTION BOOKS** | | | | | | |
| | TQB8E2953A-1 | GERMAN | | | | ⚠ |
| | TQB8E2953B-1 | DUTCH | | | | ⚠ |
| | TQB8E2953C-1 | ITALIAN | | | | ⚠ |
| **I.C.s** | | | | | | |
| IC1103 | XPK2-1LCZ | EAROM* | | | | ⚠ |
| **COILS** | | | | | | |
| L501 | ELH5L4105 | COIL | | | | |
| **RESISTORS** | | | | | | |
| R416 | ERDS1TJ1R5 | CARBON | 0.5W | 5% | 1R5 Ω | |
| R417 | ERDS1TJ1R2 | CARBON | 0.5W | 5% | 1R2 Ω | |
| R418 | ERDS1TJ1R2 | CARBON | 0.5W | 5% | 1R2 Ω | |
| R559 | ERQ1ABJP3R0S | METAL | 0.5W | 5% | 3R0 Ω | ⚠ |
| **CAPACITORS** | | | | | | |
| C559 | ECWH20123JVB | FILM | 200V | | 12F | |
| C563 | ECWF2394JBB | FILM | 250V | | 0.39µF | |
| C751 | ECWF2334JBB | FILM | 200V | | 330nF | |

| Cct Ref | Parts Number | Description |
|---|---|---|

## SCHEMATIC DIAGRAMS FOR MODELS TX-28LK1C,TX-25LK1C, TX-28SK1C

## (Z8 CHASSIS)

**IMPORTANT SAFETY NOTICE**

Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

### NOTES

1. RESISTOR
   All resistors are carbon ¼W resistor, unless marked otherwise.
   Unit of resistance is OHM (Ω) (k=1,000, M=1,000,000)
2. CAPACITORS
   All capacitors are ceramic 50V unless marked otherwise.
   Unit of capacitance is µF unless otherwise stated.
3. COIL
   Unit of inductance is µH, unless otherwise stated.
4. Components marked "L" on the schematic diagram shows leadless parts.
5. TEST POINT
   Test Point Position
6. EARTH SYMBOL
   Chassis Earth (Cold) Line Earth (Hot)
7. VOLTAGE MEASUREMENT
   Voltage is measured by a d.c. voltmeter.
   Measurement conditions are as follows:

| | |
|---|---|
| Power source | a.c. 220V-240V, 50Hz |
| Receiving Signal | Colour Bar signal (RF) |
| All customer controls | Maximum position |

8. Indicates the Video signal path
   Indicates the Audio signal path

These schematic diagrams are the latest at time of printing and are subject to change without notice.

### REMARKS

1. The Power Supply Circuit contains a circuit area which uses a separate power supply to isolate the earth connection. The circuit is defined by HOT and COLD indications in the schematic diagram. All circuits except the Power Circuit, are COLD.
   Take the following precautions :-

a. Do not touch the hot part, or the hot and cold parts at the same time, as you are liable to a shock hazard.
b. Do not short circuit the hot and cold circuits as electrical components may be damaged.
c. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously as this may cause fuse failure. Connect the earth of the instruments to the earth connection of the circuit being measured.
d. Make sure to disconnect the power plug before removing the chassis.

## ZEICHENERKLÄRUNG FÜR MODELL TX-28LK1C, TX-25LK1C, TX-28SK1C

## (Z8 CHASSIS)

**WICHTIGER SICHERHEITSHINWEIS**

Teile, die mit einen Hinweis ⚠ gekennzeichnet sind, sind wichtig für die Sicherheit, Sollte ein Auswechsein erforderlich sein, sind unbedingt Originalteile einzusetzen.

### ANMERKUNG

1. WIDERSTÄNDE
   Alle ¼W Widerstände sind Kohlewiderstände, Abweichungen sind folgt gekennzeichnet.
   Die Maßeinheit ist OHM (Ω) (k=1,000, M=1,000,000)
2. KONDENSATOREN
   Alle Kondensatoren sind Keramikausführungen. Spannungsfestigkeit 50V. Abweichungen sind wie folgt gekennzeichnet. Die Maßeinheit ist µF, wenne keine anderen Bezeichnungen gennant sind.
3. SPULEN
   Die Maßeinheit ist µH, Abweichungen sind gekennzeichnet.
4. Mit "L" gekennzeichnete Teile sind ohne Anschlußdrähte.
5. TESTPUNKTE
   Kennzeichnung der Testpunktposition
6. MASSE SYMBOL
   Erdung am Chassis Erdung an Masse-Leitung
7. SPANNUNGSMESSUNG
   Spannungsmessungen sind mit einem d.c.-Voltmeter durchzuführen. Die Meßbedingungen sind folgende:

| | |
|---|---|
| Netzspannung | a.c. 220V-240V, 50Hz |
| Wiedregabe Signal | Farbbalken-Testbild |
| Wiedergabesignal | Farbbalken-Testbild (HF) |

8. Videosignalweg
   Audiosignalweg

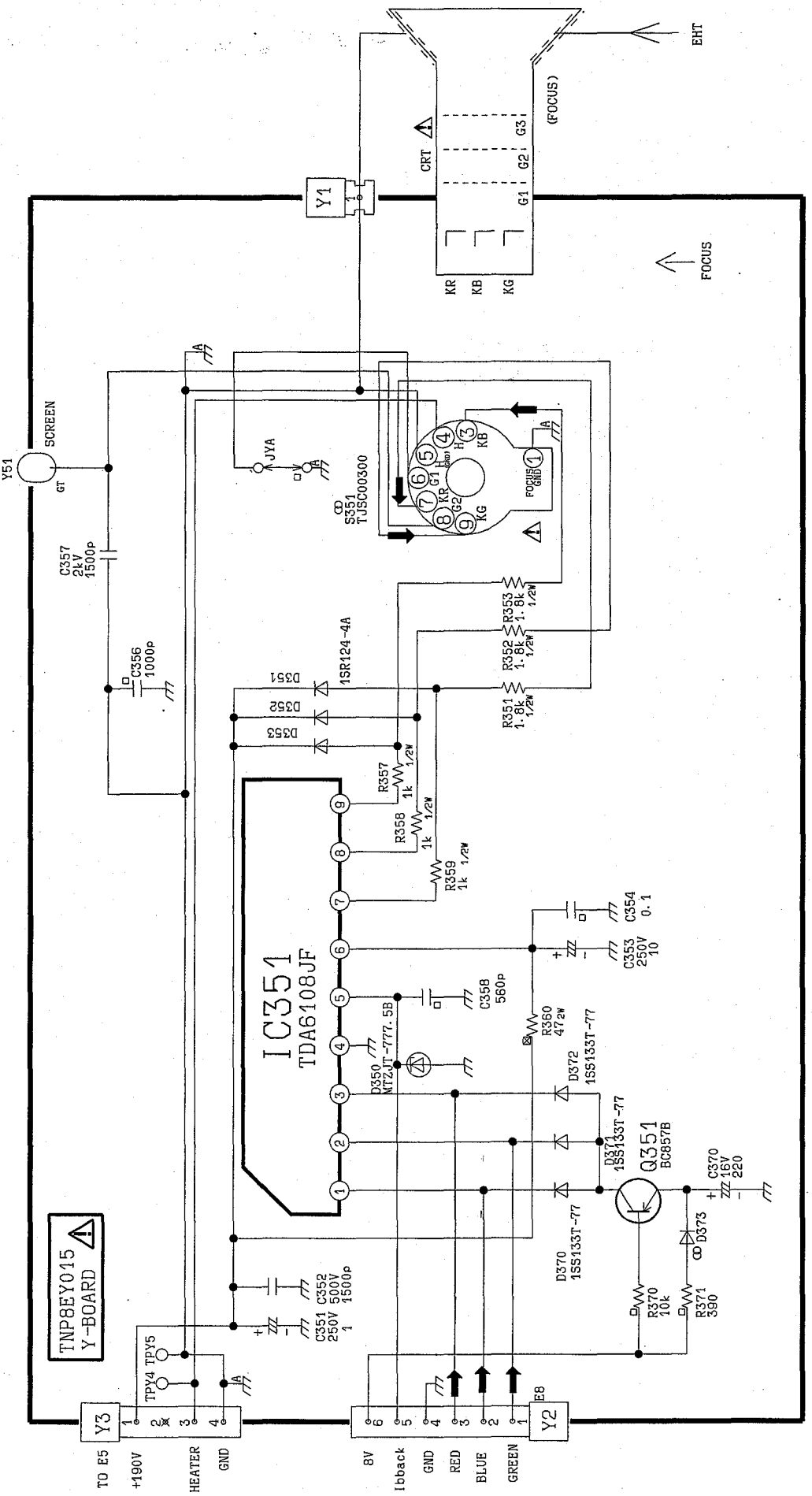
Änderungen im Laufe der Fertigung sind möglich.

### BEMERKUNGEN

1. Das Schaltnetzteil enthält Bereiche, die direkt mit dem Netz verbunden sind. Diese Bereiche sind im Schaltplan mit HOT gekennzeichnet. Alle anderen Schaltungen sind mit COLD gekennzeichnet und haben keine direkte Verbindung mit den Netz :-

a. Weder die Leitungen im heißen noch Leitungen im heißen und im kalten Bereich gleichzeitig berühren. Es besteht die Gefahr eines elektrischen Schlages.
b. Keinesfalls die Leitungen im heißen Bereich mit denen im kalten Bereich verbinden oder kurzschliessen. Dies kann zur Zerstörung von Bauteilen oder Sicherungen führen. Außerdem ist die elektrische Betriebssicherheit des Gerätes nicht mehr gegeben.
c. Keine Messinstrumente gleichzeitig an Leitungen im heissen und kalten Bereich anschliessen. Sicherungen könnten zerstört werden. Die Erde des Messinstrumentes immer mit der des zu prüfenden Schaltkreises verbinden.
d. Vor Ausbau des Chassis, Stecker aus der Netzsteckdose ziehen.

# TX-28LK1C, TX-25LK1C, TX-28SK1C

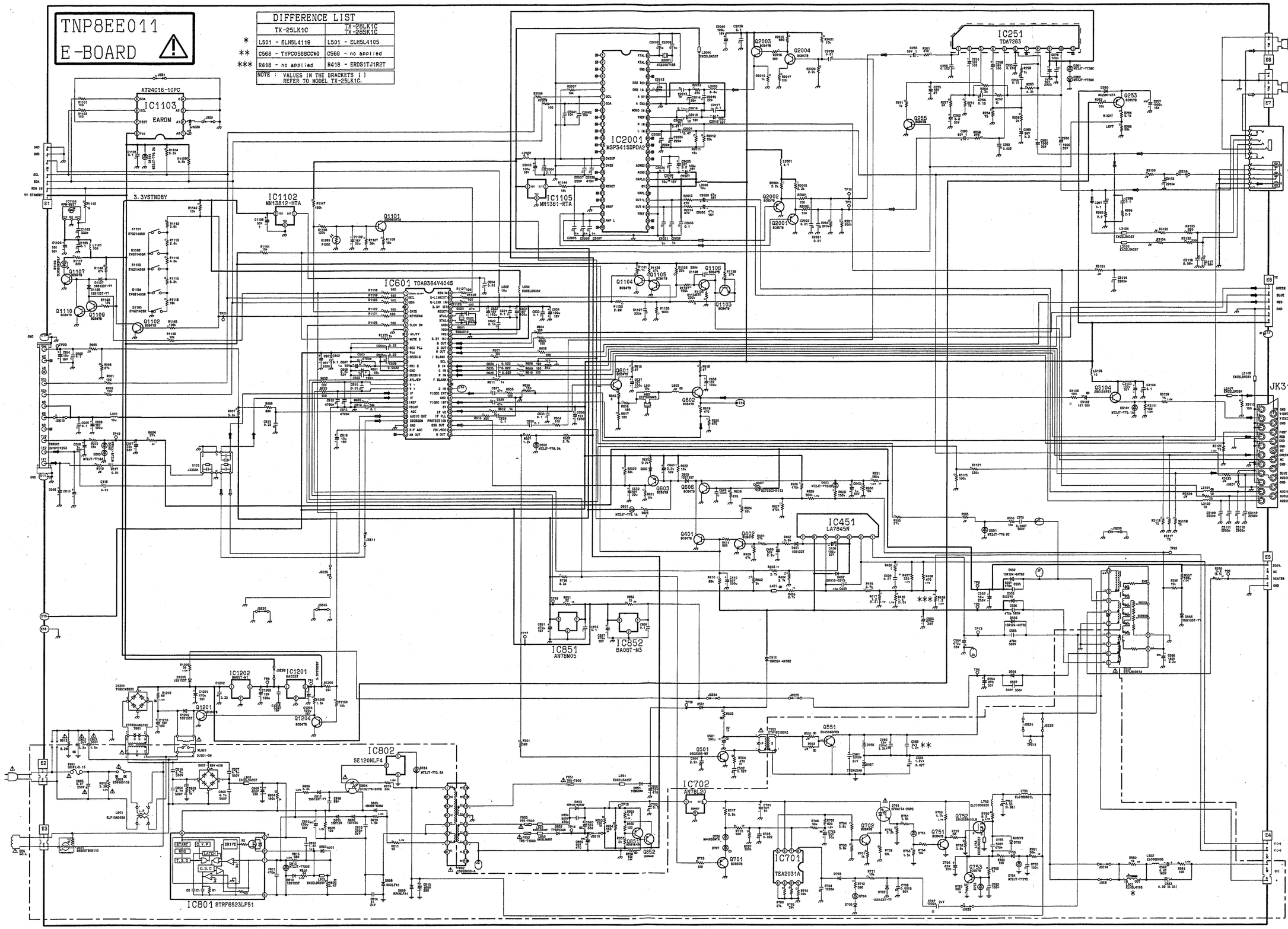


# TX-28LK1C, TX-25LK1C, TX-28SK1C

TNP8EE011
E-BOARD

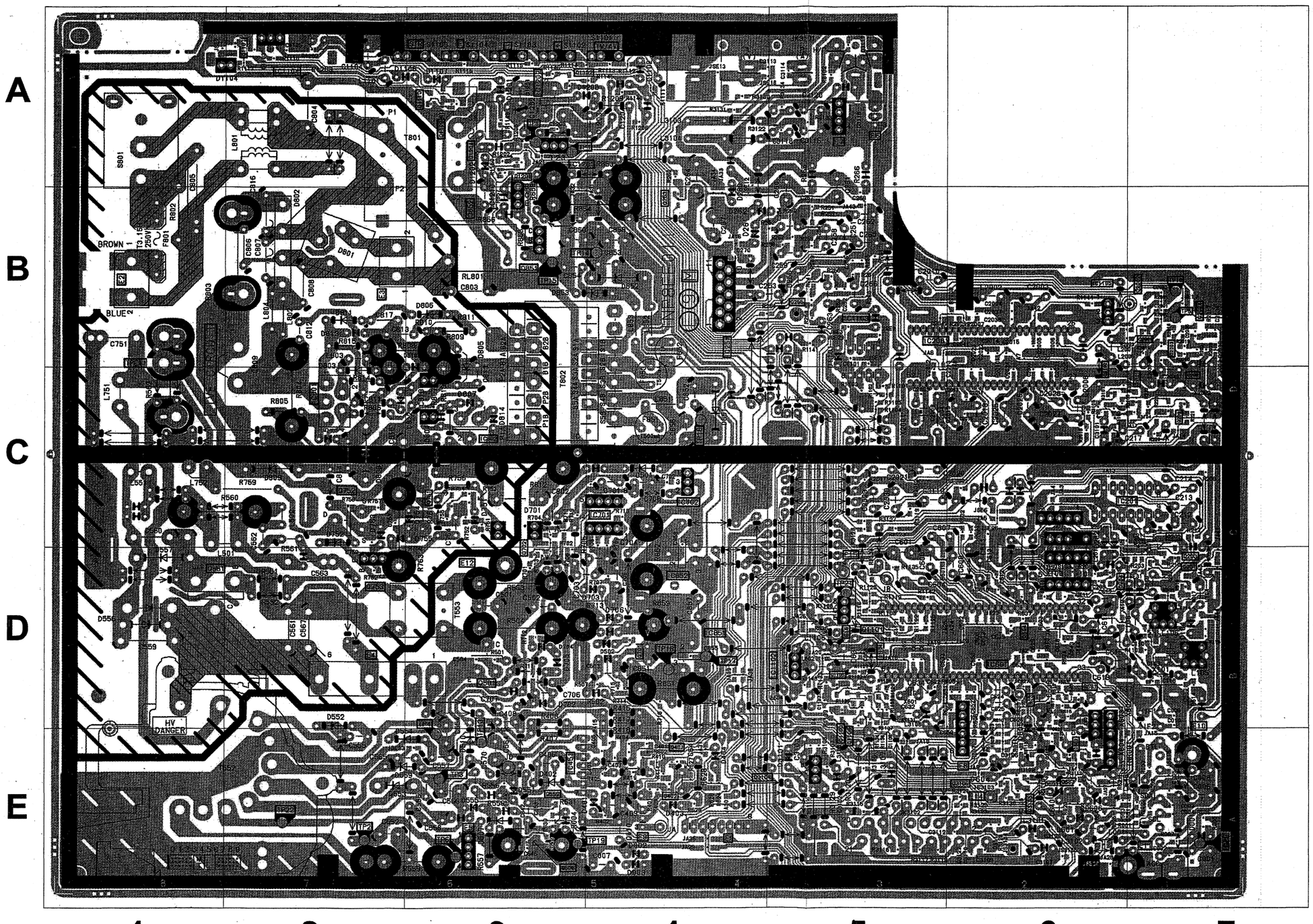
| DIFFERENCE LIST | |
|---|---|
| TX-25LK1C | TX-28LK1C<br>TX-28SK1C |
| * L501 - ELH5L4119 | L501 - ELH5L4105 |
| ** C568 - TYPC0568CCWG | C568 - no applied |
| *** R418 - no applied | R418 - ERDS1TJ1R2T |

NOTE : VALUES IN THE BRACKETS [ ] REFER TO MODEL TX-25LK1C.



# CONDUCTOR VIEWS FOR MODELS
# TX-28LK1C, TX-25LK1C, TX-28SK1C

# ANSICHT DER LEITERBAHNEN FÜR
# TX-28LK1C, TX-25LK1C, TX-28SK1C

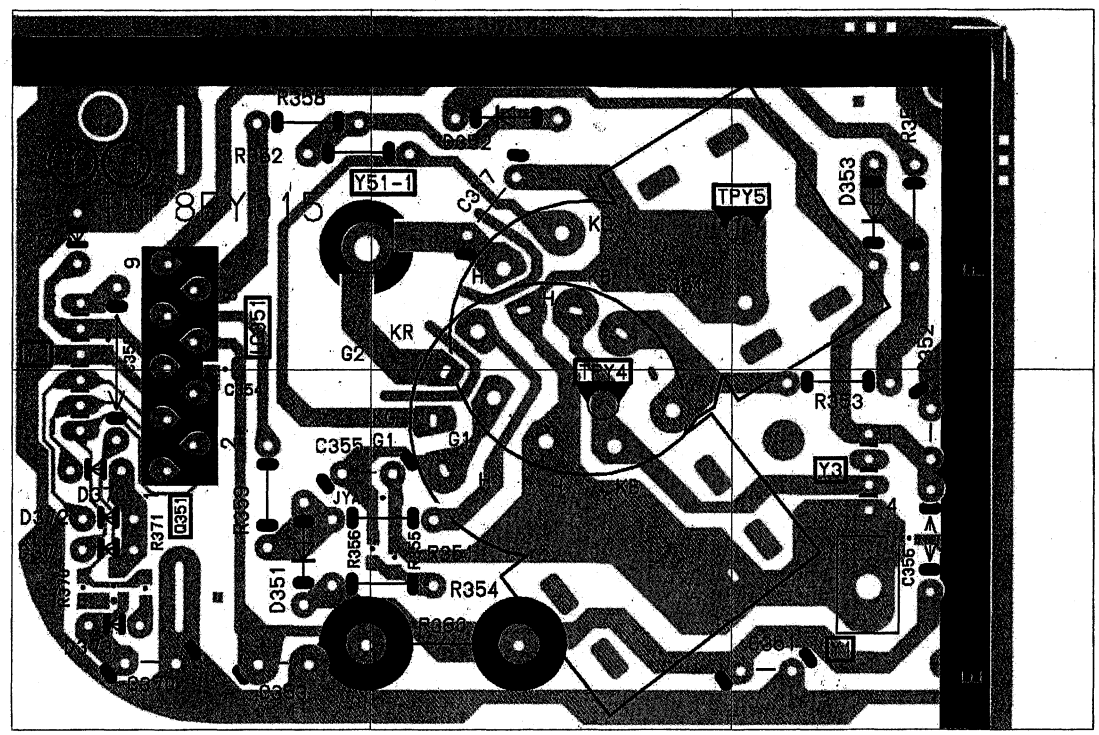



**E - BOARD TNP8EE011**

| TRAN'S | | DIODES | | D852 | B4 |
|---|---|---|---|---|---|
| Q253 | B4 | D002 | E4 | D853 | B4 |
| Q255 | B5 | D003 | E4 | D1101 | B5 |
| Q401 | E4 | D260 | B4 | D1104 | A1 |
| Q402 | E4 | D261 | B4 | D1106 | A2 |
| Q501 | D3 | D262 | B4 | D1107 | A3 |
| Q551 | D1 | D401 | E4 | D1201 | A3 |
| Q601 | D6 | D402 | E3 | D1202 | A3 |
| Q602 | A2 | D403 | E4 | D1205 | A3 |
| Q603 | E6 | D501 | C4 | D3101 | E5 |
| Q606 | E3 | D502 | D4 | | |
| Q701 | D4 | D510 | E3 | I.C.'S | |
| Q702 | D3 | D551 | E3 | IC251 | B4 |
| Q751 | C3 | D552 | D2 | IC451 | E3 |
| Q752 | C2 | D553 | E2 | IC601 | D6 |
| Q753 | D2 | D554 | E3 | IC701 | C4 |
| Q851 | B3 | D555 | E3 | IC702 | C4 |
| Q852 | B3 | D556 | D1 | IC801 | C2 |
| Q1101 | D5 | D557 | D1 | IC802 | C3 |
| Q1102 | A3 | D559 | E2 | IC851 | D4 |
| Q1103 | E5 | D601 | E6 | IC852 | D4 |
| Q1104 | D6 | D603 | E6 | IC1102 | D5 |
| Q1105 | D5 | D606 | E6 | IC1103 | B5 |
| Q1106 | E5 | D607 | E3 | IC1104 | A2 |
| Q1107 | A2 | D701 | C3 | IC1105 | B6 |
| Q1109 | A3 | D702 | D3 | IC1201 | A3 |
| Q1110 | A3 | D703 | D4 | IC1202 | A3 |
| Q1201 | B3 | D704 | D3 | IC2001 | B5 |
| Q1204 | A3 | D705 | D3 | | |
| Q2001 | B7 | D706 | D4 | T.P.'S | |
| Q2002 | B7 | D707 | D4 | TP1 | A3 |
| Q2003 | B7 | D751 | C3 | TP2 | E2 |
| Q2004 | B7 | D753 | C2 | TP3 | E3 |
| Q3104 | E4 | D754 | C3 | TP4 | E3 |
| | | D801 | E7 | TP5 | B7 |
| | | D802 | E7 | TP6 | E3 |
| | | D803 | C2 | TP8 | A3 |
| | | D804 | C3 | TP10 | B7 |
| | | D805 | B3 | TP13 | E3 |
| | | D806 | B3 | TP14 | B4 |
| | | D808 | C2 | TP15 | B3 |
| | | D809 | C2 | TP16 | C4 |
| | | D810 | B3 | TP17 | D4 |
| | | D811 | B2 | TP18 | D4 |
| | | D812 | C2 | TP19 | E3 |
| | | D813 | B2 | TP20 | E7 |
| | | D814 | C3 | TP21 | D5 |
| | | D851 | C4 | TP22 | E2 |
| | | | | TPE11 | B1 |

## Y - BOARD TNP8EY015

| TRAN'S | |
|---|---|
| Q351 | B1 |
| DIODES | |
| D350 | A1 |
| D351 | B1 |
| D352 | A2 |
| D353 | A3 |
| D370 | B1 |
| D371 | B1 |
| D372 | B1 |
| D373 | B1 |
| T.P.'S | |
| TPY4 | B2 |
| TPY5 | A3 |
| I.C.'S | |
| IC351 | A1 |



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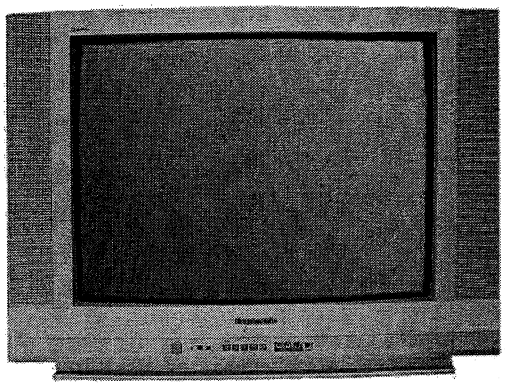
# Service Manual



SUPPLEMENT 1

## Colour Television

## TX-28LK1C/S

## Z8 Chassis

**NOTE:**
This supplement applies to the model **TX-28LK1C/S only** and should be used in conjunction with the Service Manual for the model **TX-28LK1C (00-SM-012).**

**HINWEIS:**
Bitte benutzen Sie diesen Nachtrag zusammen mit dem Service Manual für die Modelle **TX-28LK1C (00-SM-012).**

**DIFFERENCE LIST**

| **Description.** | **TX-28LK1C/S** | **TX-28LK1C** |
|---|---|---|
| INSTRUCTION BOOK | TQB8E3195A | TQB8E2938A-1 |
| INSTRUCTION BOOK | NIL | TQB8E2938B-1 |
| INSTRUCTION BOOK | NIL | TQB8E2938C-1 |
| CABINET | TKY8E524-1 | TKY8E520-1 |
| MODEL LABEL | TBM8E2128-1 | TBM8E2004-1 |
| POWER BUTTON | TBX8E085 | TBX8E082 |
| AV COVER | TKK8E045 | TKK8E041 |
| 5-KEY BUTTON | TBX8E087-1 | TBX8E081-1 |
| E P.C.B. | TNP8EE011ET | TNP8EE011EA |

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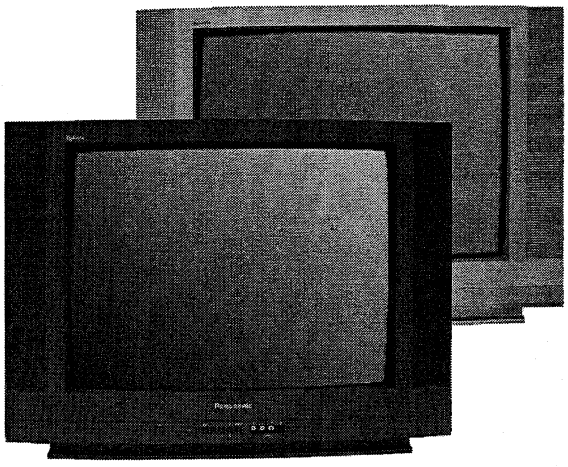
# Service Manual

## Colour Television



SUPPLEMENT 2

## TX-28LK1C
## TX-28LK1C/S
## TX-28SK1C

## Z8 Chassis

**NOTE:**
This supplement should be used in conjunction with the Service Manual for the models **TX-28LK1C, TX-28LK1C/S, TX-28SK1C (00-SM-012).**

**HINWEIS:**
Bitte benutzen Sie diesen Nachtrag zusammen mit dem Service Manual für die Modelle **TX-28LK1C, TX-28LK1C/S, TX-28SK1C (00-SM-012).**

# POWER FACTOR CORRECTION
# BEGRENZUNG DES HARMONISCHEN STROMS

### DIFFERENCE LIST

| Description | Before correction | After correction |
|---|---|---|
| D801 | 232266296706 | 232266296684 |
| D814 | MTZJT-775.6A | MTZJT-772.0A |
| R803 | ERF7ZK2R7 | ERF7ZK1R0 |
| SCHEMATIC DIAGRAM | TQA8E2149 | TQA8E2149-1 |
| SCHEMATIC DIAGRAM | TQA8E2156 | TQA8E2156-1 |
| T552 | ZTFL84001A | ZTFL84001B |
| T802 | 10653050-A | 10711990 |
| Power consumption | 76W | 66W |
| High voltage | 28kV ± 1kV | 27,5kV ± 1kV |

**NOTE:** Power Factor Correction was implemented from the serial number of TV set :
NA-0651703 – TX-28LK1C, NA-0650996 – TX-28LK1C/S, ND-0650296 – TX-28SK1C

**HINWEIS:** Begrenzung des harmonischen Stroms wurde appliziert seit Serien-NR. des Fernsehgerätes:
NA-0651703 – TX-28LK1C , NA-0650996 – TX-28LK1C/S, ND-0650296 – TX-28SK1C

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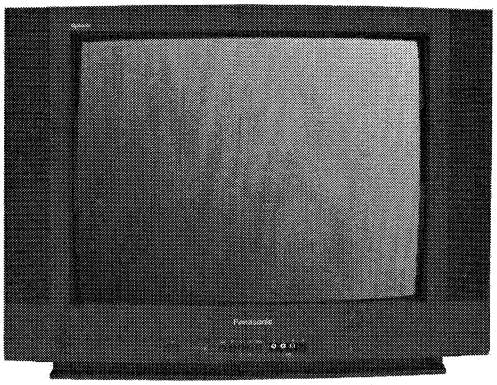
# Service Manual

## Colour Television



SUPPLEMENT 3

## TX-28EX2C
## TX-28LD8C

## Z8 Chassis

**NOTE:** This supplement applies to the models **TX-28EX2C, TX-28LD8C only** and should be used in conjunction with the Service Manual for the model **TX-28LK1C (00-SM-012).**

**HINWEIS:**
Bitte benutzen Sie diesen Nachtrag zusammen mit dem Service Manual für die Modelle **TX-28LK1C (00-SM-012).**

### DIFFERENCE LIST

| Description. | TX-28EX2C | TX-28LD8C | TX-28LK1C |
|---|---|---|---|
| INSTRUCTION BOOK GERMAN | TQB8E3257A | TQB8E3259A | TQB8E2938A-1 |
| INSTRUCTION BOOK DUTCH | NIL | NIL | TQB8E2938B-1 |
| INSTRUCTION BOOK ITALIAN | NIL | NIL | TQB8E2938C-1 |
| MODEL LABEL | TBM8E2160 | TBM8E2162 | TBM8E2004-1 |
| E P.C.B. | TNP8EE011FL | TNP8EE011FN | TNP8EE011EA |

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